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ABSTRACT

Designed to provide the information and guidance required to establish and operate a workforce planning system for the library, archive, and information sector in developing countries, this manual shows how to collect, analyze, and understand information about the current state of the workforce, about its development, and about the likely future balance between the demand for and the supply of staff. The first of eight sections explores the context within which workforce planning takes place. The second section describes the elements that make up the workforce and the principles that must be taken into account in the production of forecasts and plans. Sections 3 through 6 provide guidelines for data collection; data analysis; the presentation and interpretation of results; and developing a workforce planning system. Case studies of surveys in the Caribbean areas and Botswana and a glossary are presented in sections 7 and 8. A second volume contains all the materials to be used when conducting a survey, including drafts of covering letters and reminder letters, notes and definitions, questionnaires, and summary sheets for compiling survey data. (THC)

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Guidelines for conducting information manpower surveys

Volume I
The Manual

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General Information Programme and UNISIST

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GUIDELINES FOR CONDUCTING INFORMATION MANPOWER SURVEYS

prepared by

Nick Moore

VOLUME I. THE MANUAL

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PREFACE

For many years the General Information Programme of Unesco has been issuing an important number of guidelines in order to facilitate among Member States the development of national information systems, including libraries, information services and archives. The present document which is particularly concerned with information manpower planning is part of this important programme.

The aim of these Guidelines is to provide the information and guidance needed for the establishment and operation of a manpower planning system for libraries, archives and information services. They have been designed for librarians and information workers who want to ensure that the development of manpower in their country is, as much as possible, parallel with the needs and demands of the overall information system. They have not been written with the specialist in manpower planning in mind and give rather a simple and uncomplicated approach to the task. Furthermore, they have been conceived with the special conditions of developing countries in mind where the need for manpower planning is particularly strong.

The origin of this project goes back as far as 1978 when the 20th Session of the Unesco General Conference decided to launch a Pilot Project for the "coordinated development of national information systems in the Caribbean region, comprising libraries, archives, and scientific and technological components". As solving the human resources problem was seen as a crucial first step in the development of the library and information services, the first phase of this Pilot Project included a proposal for a detailed study of information manpower needs at the professional and technical levels in the twenty countries of the region.

At that stage, Nick Moore, United Kingdom, the author of the present Guidelines, had been asked to develop a forecasting model as well as the related data collection instruments which were used for two surveys, the first one carried out by the author himself in 1981 and the second one by the Institute for Social and Economic Research of the University of the West Indies in 1983.

The present Guidelines are thus based on the experience gained in using this model and the associated data collection system when carrying out two Caribbean surveys, and were further improved on the basis of a similar survey undertaken in Bostwana in 1985.

To facilitate its use, the document is presented in two separate volumes. Volume I, The Manual gives the background of manpower planning, explains the model used to carry out surveys and gives an account of the case studies which helped to test the model. Volume II, Questionnaires and accompanying documents, contains all the documents to be used when conducting a survey.

The designations employed and the presentation of the material throughout these Guidelines do not imply the expression of any opinion whatsoever on the part of Unesco.

Any comments or suggestions for improvement or any report on the experience gained by other countries in using these Guidelines are welcome. Correspondence should be sent to the Division of the General Information Programme, Unesco, 7 place de Fontenoy, 75007 PARIS, France.

January 1986

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VOLUME TWO· QUESTIONNAIRES AND ACCOMPANYING DOCUMENTS

INTRODUCTION

The aim of this manual is to present all the information and guidance that is required to establish and operate a workforce planning system for the library, archive and information sector.

One of the crucial factors in the development of library, archive and information services is the availability of an adequate supply of appropriately trained staff. Ensuring that such staff are available in the right numbers represents a major challenge for those concerned with the development of effective services. This manual is intended to provide the first step towards meeting that challenge.

The manual shows how to collect, analyse and understand information about the current state of the workforce, about its development and about the likely future balance between the demand for and the supply of staff. The technique alone, however, is of little value. It must be used with an understanding of the workforce and its component parts. If planners are to produce realistic results they must base their work on an appreciation of the pressures and forces which affect the workforce. They must also produce plans which relate the development of the workforce to the overall development of the library, archive and information system. The manual, therefore, begins with a section which explores the context within which workforce planning takes place. It goes on to describe the elements which make up the workforce and the principles which must be taken into account in the production of forecasts and plans.

Workforce planning can be a specialist occupation calling for a high level of expertise. It is, however, possible for information workers with no formal training in workforce planning to produce worthwhile results providing that the basic technique is simple and that certain fundamental rules are observed. Indeed, many people would say that the most valuable results are obtained when workforce planning is

carried out by the library and information community itself. This manual has not been written with the specialist workforce planner in mind. Instead it is aimed at librarians and information workers who are attempting to ensure that the development of the workforce is consistent with the needs and demands of the overall system. Furthermore, the manual deliberately sets out to develop a simple and uncomplicated approach to the task.

The workforce planning system should be administered, or at least coordinated, by a body with some national standing. It might be a professional association, a national library, archives or information service or a branch of government. Such backing is necessary to secure the cooperation of the individual services which will be called upon to provide information.

While the technique has been designed to be simple, it does require certain skills if it is to be applied successfully. The person actually undertaking the work should have an understanding of the overall structure of the library, archive and information service and an appreciation of the current workforce situation. They should also have an organised and systematic approach to the task. It is not necessary to have high-level statistical skills, although at certain points it may be necessary to consult a statistician. More important is consistency, accuracy and the ability to add, subtract, multiply and divide.

The technique set out in the manual can be used to carry out a single survey of the workforce and to assess the likely future supply and demand. Such a survey would, however, provide only a snapshot of a constantly changing situation. There are, therefore, many benefits to be gained from establishing a continuing workforce planning system to provide a regular flow of information and to monitor developments as they take place. The manual has been designed with this in mind.

It is in developing countries that the need for workforce planning is most acute. For this reason the manual has been designed to take account of the particular needs and constraints which exist in developing countries. There is, however, no reason why the technique can not be used in any country and in the final section there is an indication of the ways in which the basic technique can be extended and developed as the library, archive and information system itself becomes better established.

The manual originated in an attempt to produce forecasts of library, archive and information workforce needs in the Caribbean(1). Since then the technique has been used again in the Caribbean(2) and has been tested in a modified form in Botswana. The experience gained in these tests has been incorporated into this edition of the manual which is now being made more widely available. Many people have helped with the development of the manual, offering comments on an earlier draft and actually carrying out tests of the manual itself. I would like to take this opportunity to thank them all. I hope the final result is worthy of them.

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1. Nick Moore, *Survey of library and information manpower needs in the Caribbean.* Paris, Unesco, 1982. PGI-82/WS/15.

2. Gloria Greene and Reive Robb, *Second survey of library and information manpower needs in the Caribbean.* Paris, Unesco, 1985. PGI-85/WS/12.

INTRODUCTION. IN SUMMARY...

The overall aim of this manual is to present all the information and guidance required for the development and implementation of a workforce planning system for the library, archive and information sector.

Within this overall aim there are five specific objectives:

- *To place workforce planning into an overall context and to establish the relationship between workforce planning and overall service development planning. (Section One)*
- *To identify the elements which make up the workforce and to set down the principles which need to be considered when undertaking workforce planning. (Section Two)*
- *To describe the steps which are required to collect information about the workforce. (Section Three)*
- *To describe how the information can be analysed and presented. (Sections Four and Five)*
- *To indicate the most useful ways in which the forecasting process can be extended and developed. (Section Six)*

The manual is intended for information workers who want to undertake workforce planning.

The manual can be used for a single survey or as the basis for establishing a continuing workforce planning system.

The manual has been written with the needs of developing countries particularly in mind.

SECTION ONE: THE OVERALL CONTEXT

The purpose of this section is to put workforce planning into its proper context. Before undertaking any workforce planning it is important to realise that the activity should not take place in isolation. The workforce planner must operate in close consultation with service development planners and with the training institutions, collecting and exchanging information in a continuing cyclical process of revision aimed at achieving an overall balance between supply and demand. The workforce planner must also be aware of wider social, economic and political trends and be able to place the library, archive and information workforce within the national and regional context. But first, it is worth considering why we need to plan the development of the workforce at all.

1.1 The importance of the workforce

Library, archive and information services are labour-intensive. To be effective, they require adequate numbers of relatively highly trained staff. It is not surprising, therefore, that expenditure on staff nearly always forms the largest item in the budget.

Because of the labour-intensive nature of the services, shortages of staff seriously reduce the efficiency and effectiveness of the service. Without sufficient staff work cannot be carried out. Staff responsible for the direct provision of services to users cannot operate effectively without proper support staff. Equally, there is little point in having good support services if staff are not available to deliver services to users.

In the short-term it is possible to overcome a shortage of trained staff by employing workers who do not have the required training or education. Such workers cannot, however, be expected to deliver the same quality of service that could be obtained from an appropriately trained worker.

It is important, therefore, to avoid shortages of staff. It is equally important to avoid producing a surplus. To educate and to train individuals for whom there is no prospect of employment is a waste of human resources. Furthermore, any such surplus will reduce the scarcity value of the workforce and can adversely depress salary levels. So, for the effective development of the workforce as a whole, it is vitally necessary to ensure that the right numbers of appropriately trained staff are available.

It is also important to ensure that there is an appropriate balance of skills and expertise. The library, archive and information system as a whole will call for a considerable range of different skills and specialisms. There will, for example, be a demand for people possessing management skills or administrative ability. There will also be a need for people who are skilled in specialist tasks such as information retrieval, reference and enquiry work, or the acquisition of materials. The successful exercise of these skills calls for the right attributes on the part of the individual. It also calls for appropriate training and re-training facilities.

The overall efficiency of the system is determined by the availability of the right number of trained staff and the range of skills and attributes which they possess.

1.2 Supply and demand

Precise definitions of supply and demand in the context of the workforce are given in Section Two. Here it is sufficient to say that, in theory at least, the supply of trained staff and the demand for them will balance in the long-term. The theory suggests that if demand exceeds supply and there is a shortage the price, or salary level, goes up and in this way more people are attracted to enter the workforce. Similarly, if there is a surplus then salary levels fall and fewer people are attracted to the occupation. Real life, however, is not like this. While supply and demand may well balance in the long-term, various things inhibit the working of the balancing mechanism in the short- and the medium-term.

Time is the most significant inhibiting factor. It takes time to train information workers and to prepare them to be effective members of the workforce. There will always be a time lag between changes in the level of demand and the corresponding change in supply.

Even if information workers could be produced overnight there would still be distortions produced by the lack of perfect information about demand. The supply can only react to changes in demand when the magnitude of those changes is known and clearly understood by all concerned. This is seldom the case. In fact, workforce planners frequently encounter considerable ignorance about the current levels of supply and demand.

Another factor which limits the extent to which supply can respond to changes in demand is the fact that the price of labour is not something which is moving constantly in response to changes in the balance between supply and demand. It is much more often the case that salary levels are fixed and are determined by nationally established grades and salary structures. As the salary level is the mechanism which, in theory, ensures that supply and demand balance, it is apparent that anything which limits the change in salary level will inhibit the tendency for supply and demand to balance.

To overcome these inhibiting factors it is necessary to plan the development of the workforce. The most pressing need is always to explore the current position and to take action to correct any imbalances which may exist. We have already noted, however, that it takes time to train an information worker. So it is necessary to look into the future and to prepare forecasts about the likely levels of supply and demand. Once these forecasts have been prepared it is possible to consider what action is required to achieve a balance between supply and demand.

At this point it is important to distinguish between need and demand. Actual demand is represented by the number of specific posts which are available within the system. In almost every instance there will be a greater need for librarians, archivists and information workers. This need only becomes a demand, however, when a post is established and finance is made available to employ someone.

1.3 Achieving a balance

An expansion in the size of the library, archive and information system will produce an increased demand for staff. Equally, the availability of trained staff will constrain the rate at which the overall system can expand. We cannot, therefore, think of the workforce in isolation. Workforce plans must reflect and be coordinated with the development of overall systems.

That being said, we must recognise that although the workforce can limit the rate of development it cannot, itself, generate development. It can act like a brake but not an engine. A surplus of staff will not automatically produce an expansion in demand. A shortage will, however, limit the extent to which the overall service can expand.

Because of this, workforce planners must work in close conjunction with those responsible for the general development of the service.

Workforce planners will need to ask individual service planners and managers for information about the current level of employment and about the future growth in services. On the basis of the information received workforce planners can produce a statement of the current position and an estimate of the likely future demand.

At the same time, the workforce planners will be gathering information from training institutions about their current and future output of trained workers. This information will be used to produce forecasts of the future supply.

It then becomes possible to compare the forecasts of demand and supply and to see whether they are in balance or whether there is likely to be a shortage or a surplus. This information will then be used by service planners and training institutions to revise their forecasts. After all, it is no good planning the development of a new service unless there is a good prospect of staff being available to operate it.

Let us suppose that the forecasts produced by the workforce planners indicate that there is likely to be a significant shortage of staff in the future. Such a forecast might well encourage service planners to reduce the rate of their development or to defer it until the necessary staff became available.

Those responsible for the training institutions would also be likely to amend their plans in the light of an expected shortage of staff in the future. Such a shortage would encourage them to increase their output of trained workers.

It is now apparent that the information on which the workforce planners produced their initial forecasts has changed. The service development planners have reduced their expectations and thus demand is smaller than it was, while at the same time the training institutions are planning to expand their output and the supply is therefore greater than was at first expected.

To take account of these changes the workforce planners should produce revised forecasts and begin the process of consultation again, feeding information around the system and amending plans until it is possible to obtain a balance between supply and demand.

Of course, such a cyclical process could only operate in such a way in a perfectly ordered, carefully planned society. In the real world, life is rather more complex and all that workforce planners can really attempt to do is to inform policy-makers of what the current position is and how that position is likely to change in the future. They can add to this by monitoring the development of the situation and identifying trends as they occur.

Workforce planning is therefore a collaborative activity based on a process of revision working towards an overall balance between the levels of supply and demand.

A good workforce planning system will provide information about more than just the overall levels of supply and demand. The qualitative aspects of the workforce can be equally important. In this workforce

planners can contribute to the curriculum development process of the training institutions by providing information on the nature and levels of skills required. They can also provide service managers with information about the general nature of the workforce, indicating how jobs can be structured and services organised so as to make most effective use of the personnel resources available.

1.4 The tasks of the workforce planner

The first task is to describe the current position. Workforce planners must establish whether there is a balance between the supply of trained staff and the demand for it. If no such balance exists the extent of the surplus or shortage needs to be calculated.

This can be one of the most important parts of the workforce planning process. Each training institution and each service will be aware of the position as they experience it but they will almost certainly be unaware of the overall picture. The workforce planner can provide a valuable service simply by bringing information about the current situation to everyone's attention.

The second task is to produce forecasts. If we are to avoid future mistakes we must have some idea of the magnitude of the problems we will face in the coming years.

Most forecasting depends on the identification of trends and the use of these to project forward from the current position. It is possible to use a variety of increasingly sophisticated forecasting techniques to make due allowance for different factors. In most cases, however, it is sufficient to concentrate on the broad trends because, as we have seen, the forecasts themselves will lead to changes in people's expectations and plans.

The first two tasks have been concerned with observing the current position and predicting how that position is likely to develop in the future. The third task is more difficult. Here it is necessary to ensure that plans are formulated on the basis of information about the current and future levels of supply and demand. In this, workforce planners cannot act alone. If plans are to be acted upon those plans must be prepared with the active participation of everyone concerned. This will not happen automatically and workforce planners have an important role to play in encouraging and facilitating such active participation.

It is particularly important to bring together those responsible for the education and training institutions with those responsible for employing and developing the services. Together they are responsible for the two elements of supply and demand and only by working in consultation can they ensure that a balance is achieved. It will not

be possible to rectify any imbalance instantly but it should be possible to work towards an overall balance through the constant revision of expectations in the light of likely future events.

Professional associations provide an obvious forum for discussions between service planners and training institutions. They have an important role to play in bringing together the various individuals and organisations concerned.

In many countries the government will also be closely involved in the workforce planning process. This will be particularly the case in developing countries where governments often play an active part in the allocation and deployment of the workforce generally.

Circumstances will differ from country to country and workforce planners should attempt to make due allowance for the local situation.

They must also make allowance for the general national situation. The characteristics of the library, archive and information workforce should be compared with the overall characteristics of the workforce in the country, contrasting such things as the rates of unemployment, levels of training and scales of remuneration. Similarly, forecasts of future demand need to be compared with projected national growth rates and other economic forecasts. Finally, workforce planners should be aware of the government policies that relate to employment matters.

Finally, in setting up the process of consultation workforce planners must remember that the whole process can be seen by some to be very challenging or threatening. The forecasts of future supply and demand may call for a substantial revision of plans which have taken a long time to prepare. The forecasts may even call for a reduction in the level of activity. It is, therefore, necessary to handle the whole process sensitively and to avoid alienating any particular group. Workforce planners should be seen to be neutral convenors of planning groups, supplying information and undertaking the revision of forecasts in the light of discussions. In this way it should be possible for the system as a whole to work towards the achievement of an overall balance between the supply of trained staff and the demand for them.

SECTION ONE: IN SUMMARY...

The objective of this section is to put the workforce planning activity into its proper context and to establish the relationship between workforce planning and overall service development planning.

Library, archive and information services are labour-intensive. It is important to ensure that there are no surpluses or shortages of trained staff.

Supply and demand will tend to balance automatically in the long-term. In the short-term, however, it is necessary to take certain action to rectify imbalances.

Workforce planning cannot be considered in isolation. Workforce planners need to operate in close consultation with training institutions and service planners. Plans are developed by means of a process of constant revision.

The three main tasks of workforce planners are:

- *To describe the current position.*
- *To forecast future levels of supply and demand.*
- *To ensure that plans are formulated on the basis of information about current and future levels of supply and demand.*

The aim of workforce planning is to achieve a balance between the supply of trained staff and the demand for them.

SECTION TWO: THE ELEMENTS OF THE WORKFORCE

The purpose of this section is to introduce the different elements which make up the workforce. It will also show how these elements can be combined into a model which represents the way in which the workforce develops. This model can be used to produce forecasts of the future levels of supply and demand.

2.1 Supply

The **supply** is made up of people. The **total supply** is all those people who have sufficient training or experience to enable them to work as librarians, archivists or information workers.

This total supply can be divided into two parts: the **active supply** and the **latent supply.**

The **active supply** is, as the term suggests, composed of all those people who are actually working. A large number will be trained and qualified staff who are occupying posts which make use of their training. In addition there will be a number of posts which will be filled by individuals who, although they lack a formal training or qualification, have sufficient experience to enable them to perform effectively as librarians, archivists or information workers.

The active supply also includes all the people who, although they do not actually have a job as a librarian, archivist or information worker, are actively attempting to obtain one. They may be unemployed or working in other sectors of the economy but if a suitable job were advertised they would apply for it.

There may in addition be an element of **underemployment.** This arises when trained or experienced staff have been unable to obtain posts at an appropriate level and who are occupying posts intended for people with a lower level of training or experience than they in fact possess. If they are actively trying to obtain a post at a level appropriate to their training or experience they will also form part of the active supply.

The **latent supply**, on the other hand, is composed of trained or experienced people who are not participating in the workforce. They may be unemployed, they may have decided to work in a different occupation or they may have moved to another country. The workforce planner cannot, however, ignore them because they may at some time in the future decide to re-enter the active supply by seeking employment which will make use of their training or experience. In this way they form a sort of reserve which may enter the active supply at some time in the future.

So, the supply is made up of two stocks, active supply and latent supply. These stocks are not static. They are increased and decreased by **flows** in much the same way as a lake will be filled and drained by rivers. The size of the total supply will be reduced as people die or pass the age of retirement and leave their jobs. Reductions of this kind are termed **absolute loss.** At the same time the total supply will be increased by the **newly trained workers** produced by the training institutions. In addition, there will be a constant movement between the active and the latent supply groups. There will be **wastage** from the active supply as individuals leave their jobs to undertake further study, to move to a different occupation or simply to cease paid employment for a while. This **wastage** is counter-balanced by **re-entry** to the active supply as people return after a period away.

This **wastage** and **re-entry** is particularly significant for the information professions as they tend to have a high proportion of female workers, some of whom will leave the workforce for varying periods of time to raise children.

These stocks and flows are illustrated in Figure One.

Figure One. The supply

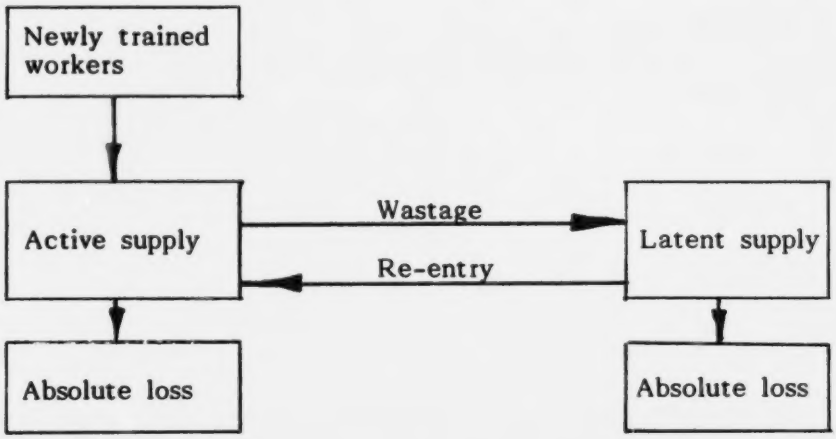


Figure One shows the supply position at any one time. Workforce planners, however, usually need to know what is happening over a period of time. They do this by taking the elements which make up the supply and expressing them in the form of an equation. Figure Two shows just such an equation, indicating how the supply changes over the course of the year.

Figure Two. Changes in supply during a year

2.2 Demand

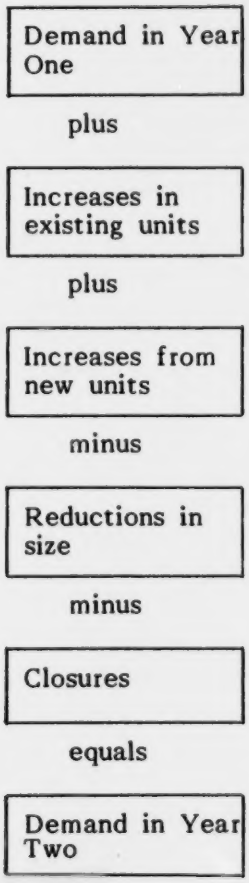
The **demand** is quite simple. It is the number of posts for trained or experienced staff which exist at any one time. Most of these posts will occur in easily recognisable libraries, archives or information units. Increasingly, however, posts for information professionals are being created in organisations which have libraries, archives or information departments as only an incidental part of their main activity.

Most of the posts which make up the demand will be filled by trained or experienced workers. Some will, however, be **vacant** and awaiting occupation by an appropriate person. These **vacant posts** need to be included in the demand as they form part of the **overall employment market** for the active supply. In some circumstances there may be a number of **frozen vacancies.** These are posts which have been created in the past and which form part of the **establishment** of a library, archive or information unit. The posts are, however, deliberately being kept vacant, usually as an economy measure. Such posts are not counted as part of the demand until such time as they are **unfrozen.**

The size of the demand will grow as existing libraries, archives and information units grow in size and as new services are established.

Demand will be decreased through reductions in the size of existing services. These reductions might be brought about through increases in **efficiency** or **productivity.** More usually, they are the result of attempts to reduce expenditure. Demand will also be decreased by the **closure** of services. Figure Three shows how the demand changes over time.

Figure Three. Changes in demand during a year



At this stage it is worth returning to the distinction which was made on page 7 between **need** and **demand**. There the point was made that need nearly always exceeds demand but that a demand only arises when a post is created and finance is made available to allow for the employment of a person. Some people argue that workforce planners should try to estimate the need for staff as, they say, without an understanding of the extent of need policy-makers are unlikely to release the resources to change needs into demands. That may be so, but such an estimation of need is outside the scope of this manual. It would, anyway, be extremely difficult to measure with any degree of reliability or credibility. The workforce planning process has to concentrate on actual demand as reflected in the number of posts available for occupation by librarians, archivists and information workers.

2.3 Workforce planning model

The workforce planner needs to establish the levels of supply and demand both now and in the future. To do this the elements of supply and demand are combined in a simple **model** illustrated overleaf.

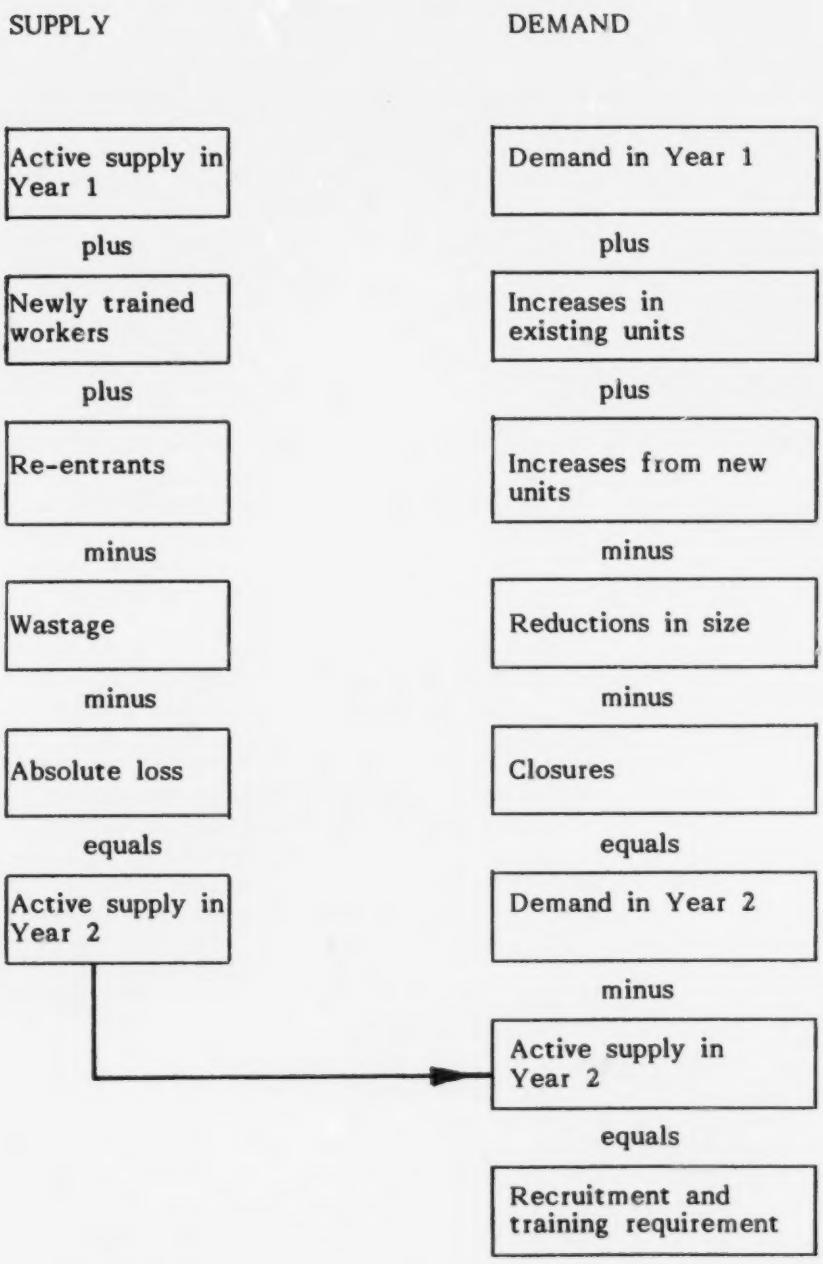
A model such as this can be used to predict future **recruitment and training needs** and is the one on which the rest of the workforce planning procedures are based.

While the model is relatively simple and straightforward, it is important to follow certain principles if the results are to be worthwhile.

First of all it is necessary to sub-divide the workforce into homogeneous groups. These can be categorised in a number of different ways. Some groups can be defined according to the level of skill or training they possess. Such a division usually results in three categories of staff - clerical staff, para-professional staff and professional staff. Each group should be homogeneous to the extent that movement from one job to another within the group is easier than movement to a job in another group.

It is also possible to sub-divide the workforce according to the type of library or information unit. This gives groupings such as public libraries, academic libraries, school libraries, special libraries, national libraries, information units and archives. The particular groupings will obviously vary from country to country. In some countries it may be possible to consolidate and to aggregate groups. In some countries, for example, the national library also provides public library services throughout the country. Where this is so it would be sensible to combine the two groups. In other cases, it may be necessary to introduce further sub-divisions. If, for example, there were significant differences between the level of qualifications required for jobs in college libraries compared with jobs in university libraries then it would be sensible to sub-divide the academic library group.

Figure Four. Workforce planning model



Groupings like these enable workforce planners to obtain a full understanding of the workforce in any country. Using the groupings it is possible to construct a forecasting matrix similar to that shown in Figure Five. Using a matrix like this it is possible to calculate and to consider the values in each cell within the matrix as well as the totals of each row and the totals of each column. (The use of such a matrix will be discussed in more detail in Section Four on analysing the data).

The workforce planner must also take account of any regional dimension which may be present. If movement between countries within a region is easy then it is probably necessary to consider the overall regional supply of and demand for trained personnel as well as the situation within any single country. In such cases, it may be necessary to prepare a matrix for each country and to add the values in each cell, as well as the totals, to provide an overall figure for the region.

Finally, it is not possible to discuss the use of workforce planning models without saying something about the identification of trends to show how the workforce will change over time. The identification of trends is an essential part of any forecasting activity. It is, however, vitally important to exercise care when presenting the trends. Generally speaking, any trend should be treated with a degree of suspicion.

In very broad terms, the validity of trends increases with the number of observations that have been made, the period of time over which the observations have been made and the overall number of units. If only a few observations have been taken over a short period and covering a small number of units the validity of the trend must be called into question. For this reason it is often necessary to aggregate results and to produce overall forecasts which are, perhaps, less detailed than might be expected.

One of the main reasons for establishing a workforce planning system as a continuing exercise is that it makes it much easier to produce reliable trends on the basis of comparisons from year to year.

2.4 Qualitative information

The model as it has been described is essentially concerned with the **quantitative** aspects of the workforce. In other words, it is dealing in overall numbers. These quantitative considerations provide only the skeleton. To get a full picture of the workforce it is necessary to supplement the quantitative information with **qualitative** information about aspects such as the age structure of the workforce, the range and level of skills and attributes, the degree of satisfaction or frustration experienced by members of the workforce as well as information about the nature of duties the individuals may be called upon to perform.

Such information can be collected by means of a supplementary questionnaire. It is also possible to use the supplementary questionnaire to collect data about specific problems or issues. For example, workforce planners are often called upon to provide information about issues such as the localisation of posts held by expatriates. Such information would best be collected by means of a question in the supplementary questionnaire. The qualitative information gathered in this way helps to clarify the quantitative information and to deepen our understanding of the workforce and its development.

Figure Five. Workforce forecasting matrix

	Clerical	Para-Professional	Professional	Total
Public Libraries				
National Libraries				
University Libraries				
College Libraries				
School Libraries				
Special Libraries				
Archives				
Total				

SECTION TWO: IN SUMMARY...

The objective of this section is to introduce the elements which make up the workforce and to discuss how these elements can be combined in a forecasting model. The section also discusses some basic principles which need to be considered when undertaking the forecasting activity.

The supply of personnel can be grouped in two categories: the active supply and the latent supply.

The active supply is increased by the output from training institutions and by re-entry from the latent supply. It is reduced by absolute loss and by wastage to the latent supply.

Demand is equivalent to the number of posts available for trained or experienced staff.

Demand should not be confused with need. A need only becomes part of demand when a post is established.

Information about supply and demand can be combined in a model to enable forecasts to be calculated. To use such a model successfully the workforce planner must:

- *Categorise the workforce into homogeneous groups.*
- *Make allowance for any regional dimension.*
- *Be careful when identifying trends.*

Basic quantitative data needs to be supplemented with qualitative information.

SECTION THREE: COLLECTING THE INFORMATION

The objective of this section is to identify the information which is required and to describe the ways in which it can be collected. Before discussing the details, however, it is necessary to look at the overall approach to the collection of information.

3.1 The overall approach

The first matter which needs to be resolved is the scope of the study or the area which it will cover.

Some workforce studies have attempted to look at the situation in a part of a country. They have focused on a single province or state and have considered supply and demand within that geographical area. The main problem with such studies is that while the jobs are located within the geographical area the members of the workforce can, and do, move quite freely within the country as a whole. It is very difficult for the workforce planner to make an accurate allowance for this movement to and from other provinces or states and any forecasts of supply are, therefore, rather suspect. In terms of the model we have defined, the latent supply contains all those who are employed in other parts of the country but who might, potentially, seek work within the province or state being surveyed. This means that the latent supply is very big and, just as important, there will be fairly high levels of wastage and re-entry. All these are difficult to measure and the workforce planner's task is made very difficult.

The most successful workforce studies have been those which have been concerned with the whole library, archives and information workforce within a single country. In such cases the workforce planner can deal with an easily defined area which has a definite boundary. Within that boundary movement is relatively easy but

there are limits to the degree of movement which is possible across the boundaries. In other words, there is likely to be a manageable degree of wastage from the country and re-entry to it.

In some regions, of course, it is relatively easy to change jobs by moving across national boundaries. In such cases it may be sensible to survey the workforce within the region as a whole. If such a regional survey is called for it is usually sensible to conduct a workforce survey in each country using the same survey technique so that the results can be aggregated. For the purposes of this manual it has been assumed that the surveys will be concerned with a single country.

Once the geographical coverage has been agreed it is possible to plan the survey in rather more detail. For basic workforce planning two surveys are required. Information must be obtained from employers of librarians, archivists and information workers. Information must also be obtained from training institutions which supply the qualified staff.

It is in deciding exactly what information to collect that the problems arise. In any survey there is a tendency to collect more information than can be handled. There is an attitude which says that "while we are collecting data on the workforce we could collect information about..." Any attempts to increase the scope of the surveys in this way should be resisted firmly. Such extra questions increase the burden on the people who have to supply the information and can reduce the response rate significantly. Extra questions also frequently complicate the analysis of the data.

There may also be a temptation to increase the complexity of the questionnaires used in this manual, perhaps by asking for more detail about specific qualifications or categories of staff. Such attempts should also be resisted, at least for the first or second time the survey is carried out. The questionnaire may seem simple, but matters can become quite complex when analysing the information and what may seem like a simple addition at first can produce information which is difficult, if not impossible to analyse. This was certainly the experience of those who tested a modified version of the questionnaire in Botswana. (For more information about the Botswana and Caribbean tests see pages 68-82).

The first thing the workforce planner has to do is to find out how many employing organisations and training institutions there are and obtain addresses for them. Public libraries, national libraries, large academic libraries and training institutions are usually easy to identify. Smaller academic libraries, school libraries, information services and archive services are more difficult. The workforce planner must consult professional associations, government departments and any other organisations which might be able to identify the services. The aim should be to produce a complete address list, categorised by the type of service.

Once this has been done it will be possible to see how big the task of surveying will be. Ideally, the workforce planner should aim to survey all the employing organisations and certainly all the training institutions. In some cases there will be so many employing organisations that to survey them all would be prohibitively expensive. In such cases it is sometimes possible to obtain reliable information by collecting data from a sample of organisations. The whole question of sampling is, however, complex and the workforce planner should consult a statistician. It is probable that a random sample of a proportion of the organisations will be sufficient to generate reliable data. In other circumstances, perhaps when there are a few large employers and many small ones it may be desirable to select a stratified sample. The nature and the size of the sample will depend on the nature and size of the population from which the sample will be drawn. It is impossible to lay down precise guidelines and statisticians should always be consulted in cases of doubt.

Before actually embarking on the survey it is well worth spending some time and effort in preparing the ground. The questionnaire and the associated documentation used in this manual have been tested and refined on a number of occasions. This does not necessarily mean, however, that they are universally applicable. There may well be local variations in the terminology used or in other aspects and it is, therefore, necessary to conduct a pilot test of the questionnaire and documents and to make any necessary amendments.

In preparing for the survey it is important to remember that other people are being asked to spend time and effort to provide information. If those people are to do this willingly they must know why the information is needed, how it will benefit them in the long run and, ideally, how much of their time will be involved. Every opportunity should be taken to inform the community generally that the survey is taking place. It might be possible to prepare an article for the professional press or to make formal contact with professional associations and groups. The objective is to explain what the aim of the survey is, what results are expected and, more generally, what will be involved. In some cases there can be advantages in setting up a steering committee or a reference group to oversee the survey and to provide advice and guidance on particular aspects.

When the survey forms are distributed they should be accompanied by a covering letter explaining the purpose of the survey, setting out the background and giving information about any official support. The survey forms themselves should be supported by full explanatory notes and definitions. There should also be a telephone number for enquiries or some other means whereby the person supplying the information can contact the organisers of the survey. Finally there should be a clear date by which the survey forms are due to be

returned and a stamped, addressed envelope for their return. Examples of the sort of supporting documents are given in Volume 2. Guidance on the actual conduct of the survey is contained on page 34.

3.2 Information about supply

As we have already noted, supply consists of two stocks. There is the **active supply** - those people working and those actively seeking employment - and the **latent supply** - those people who are trained or experienced but who are not presently working in the library, archive or information sector. There is movement between these two stocks - **wastage** from the active supply and **re-entry** from the latent supply. In addition, there are flows into and out of the active supply - from training institutions and through death and retirement. Our aim is to collect information about as much of this as possible.

First, let us consider what we can **not** collect. To begin with, we will never be able to know the exact size of the latent supply. By their nature, the people who make up the latent supply will be very difficult to trace, indeed many of them may live overseas. The actual size of the latent supply is not, however, critical. What we need to know is the rate of movement between the active and the latent supply and this we can measure.

The other group about which it is almost impossible to collect information is the **actively unemployed.** These people constitute part of the active supply as they are seeking work. It is almost impossible, however, for the workforce planner to trace them or even to get a reasonably accurate indication of their numbers. They will seldom form a large proportion of the active supply unless there is a substantial surplus of workers. It may be possible to obtain some information about the actively unemployed from other sources such as unemployment registers, censuses or population surveys.

Information about the remaining elements of the supply can be obtained from a survey of employing organisations.

3.2.1 Active supply

Such a survey would begin with the size of the active supply. This is obtained by asking for information about the number of people who are employed. For the sake of consistency and precision it is best to specify a particular day and to ask for the number employed on that day. As we have discussed on page 16, to produce meaningful information the workforce needs to be divided into three broad categories - professional, para-professional and clerical staff. (Detailed definitions of these categories are given in Volume 2, although it may be necessary to amend these definitions to take full account of local practice).

This division into three should be sufficient for most purposes. It would be possible to have a further sub-division into full-time and part-time staff. The significance of this sub-division is often doubted. After all, one person is needed for each job whether it is full-time or part-time. Workers will seldom be found to be holding two part-time jobs. For most workforce planning purposes the separation into full-time and part-time can be ignored. If part-time working is a contentious issue, and it can be very significant in a workforce with a high proportion of females, it can be covered in a supplementary questionnaire. On no account should the questionnaire attempt to collect information about the **full-time equivalent** number of staff - that is expressing part-time posts as a fraction of full-time posts then adding them all together. For the purposes of workforce planning this serves no useful purpose and can, indeed lead to unnecessary confusion.

Another sub-division which is often suggested is into male and female staff. It is often useful to have separate information for males and females as they usually have different career patterns. (In technical terms, they are said to have different **participation rates.** The participation rate is simply the proportion of the total supply which is employed or actively seeking work. Generally, females have a lower participation rate than males as a significant proportion move from the active to the latent supply in order to raise a family). For the purposes of basic workforce planning the collection of separate information for males and females is probably a sophistication which can be omitted. It would, however, be worth considering in future if the surveys were repeated.

So, to obtain the required information about the size of the active supply we need to ask a question like this:

Staff employed	**Professional**	**Para-Professional**	**Clerical**
Please give the number of staff employed on *(insert date).* (Allocate numbers according to the level of posts held rather than the qualifications possessed. For example a professional librarian working in a clerical post should be shown as a clerical).	☐	☐	☐

This question should provide sufficient information about the active supply. Remember, though, that there will be the actively unemployed group which technically should be added to the figures obtained by the survey. For practical purposes they have to be ignored as there is no easy way of counting them. If there is known to be a

substantial surplus of staff some attempt should be made to discover how many people are actively seeking employment in the library, archive and information sector. It may be possible to obtain this information from government figures, from a national census or from the records of a professional association.

3.2.2 Departures

Having obtained information about the size of the active supply, it is now necessary to measure the flows of staff to and from that active supply. First of all, the number who leave jobs.

The **turnover rate** can be quite important. This is the proportion of the workforce who left their jobs in a 12 month period. The turnover rate gives some indication of the movement and **occupational mobility** within the workforce. (Occupational mobility is the propensity for people to move between different jobs, as distinct from geographical mobility which is their propensity to move between different parts of the country). The turnover rate can also be used as a measure of the balance between supply and demand. A shortage of staff is usually associated with a high turnover rate. The overall turnover rate can, however, be misleading and it is necessary to look at the destinations of those leaving the active supply.

Some will form the **absolute loss** as they leave their jobs through death or retirement. The absolute loss represents a permanent reduction in the size of the active supply. A high rate of absolute loss will call for a high rate of training in order to replace those who have died or retired.

Others will remain in the active supply as they move to a job in another library, archive or information unit. These **internal departures**, because they remain working in the library, archive and information sector, do not have any effect on the actual size of the active supply. It is, however, useful to know how many people are changing jobs in this way. A low rate of internal departures might indicate stagnation in the job market.

A third group will form the flow of **wastage** to the latent supply. This group would include those who emigrate from the country, those who go to work in organisations outside the library, archive and information sector and those who become employed without seeking work as librarians, archivists or information workers. It also includes expatriates returning home and those moving into full-time education or training. The immediate effect of wastage is to reduce the size of the active supply. But it is adding to the size of the latent supply and thus to the number who might return in the future. It is, therefore, useful to know the rate at which people are leaving in this way.

As with the information about the active supply, it is necessary to divide the information into professionals, para-professionals and clerical staff. The information can be obtained by a question like this:

Departures	Professional	Para-Professional	Clerical
Please give the numbers of staff who have left their jobs in the last 12 months. (Do not count internal promotions or job changes within the organisation. Allocate numbers according to the level of posts held.)			
Absolute loss As a result of death or retirement.	☐	☐	☐
Internal departures Movement to another library, archive or information service within the country.	☐	☐	☐
Wastage Movement to jobs outside the library, archive or information sectors, or outside the country.	☐	☐	☐
Total numbers leaving	☐	☐	☐

3.2.3 Arrivals

Having obtained information about the number who leave jobs it is necessary to consider the number who join the service and where they come from. A significant proportion will have come from the training institutions - the training input. Some will have joined the service straight after completing their course. Others may have experienced a period of unemployment. It is important to exclude trainees who are rejoining the service, that is staff who have been on paid leave

to attend a training institution and who are now returning to their employer. Information about these staff is collected by a separate question.

Other newly-joining staff will have come from other library, archive or information services in the country. These **internal arrivals** will not represent an addition to the overall size of the active supply. The overall total number of internal arrivals should roughly correspond with the overall total number of internal departures. Because of time-lags and other factors, though, the two figures are unlikely to be identical.

The size of the active supply will be increased by people who come not from training institutions or from other library, archive or information services but from a variety of other destinations. They may be immigrants, they may have come from working in organisations outside the sector or they may have experienced a period of unemployment. This group represents **re-entry** from the latent supply.

Information about these flows can be obtained by this sort of question:

Arrivals	**Professional**	**Para-Professional**	**Clerical**
Please give the numbers of staff who joined the service in the last 12 months. (Do not count internal promotions or job changes within the organisation. Allocate numbers according to the level of post held.)			
Training input The number joining from training institutions. (Do not count existing employees who have been attending training).	☐	☐	☐
Internal arrivals Movement from another library, archive or information service in the country.	☐	☐	☐

Re-entry Arrivals from jobs outside the library, archive or information sector, or from outside the country.			
Total numbers joining			

3.2.4 Training

Finally, it is useful to know the numbers of employees who are attending training institutions on paid leave from their employers. Where training outside the country is a significant feature it is worth dividing the group to take account of this.

Training	**Professional**	**Para-Professional**	**Clerical**
Please give the number of staff who are employed but who are currently attending training institutions full-time. (Allocate numbers according to the level of post held, as in question 2.)			
In this country			
In other countries			

The answers to these four relatively straightforward questions should provide all the basic information which is needed about the supply.

3.3 Information about demand

The workforce planner needs to know the size of the demand. This is represented by the number of posts. Most of these posts will be occupied but some will be vacant. It is also necessary to know whether the level of demand is rising or falling. Information must therefore be collected on the number of new posts added and the number deleted.

3.3.1 Number of posts and vacancies

As we have noted, the total demand is equivalent to the number of posts which exist at any one time, remembering that some posts will be vacant. We already know how many posts are occupied as we have asked for information on the number of staff employed. So all that is needed here is a question to collect information on the number of **vacant posts** - that is posts which are not currently occupied by anyone. Here it is necessary to include a note about **frozen vacancies**. Frozen vacancies occur when a post is deliberately held vacant, usually as an economy measure. As frozen vacancies do not represent job opportunities they should be excluded. This sort of question is sufficient:

Vacancies	Professional	Para-Professional	Clerical
Please give the number of posts which were vacant on *(insert date).* (Do not count frozen vacancies that is, posts which are deliberately being held vacant.)	☐	☐	☐

3.3.2 New posts

Having established the size of the demand, we need to know whether it is growing. The most reliable way to discover this is to count the number of new posts which have been established in the previous year. We should also count the number of vacancies which have been **unfrozen.**

New posts			
Please give the numbers of new posts which have been added to the establishment and any vacancies which have been "unfrozen" in the last 12 months.	☐	☐	☐

3.3.3 Future growth

If we are to produce forecasts of future demand we need to know how many posts are likely to be created in the coming years. The rate at which new posts have been established in the previous year provides some guidance, but it is always difficult to project into the future on the basis of the past. So it is necessary to ask the people completing the questionnaire to estimate how many new posts are likely to be created in the future. It is worth asking for two forecasts. First the number of new posts likely to be created in the next 12 months - this should be fairly reliable - and second the number likely to be created in the next five years - this is less reliable but can be an indicator of long-term trends.

Future growth	**Professional**	**Para-Professional**	**Clerical**
Please estimate the numbers of new posts which are likely to be added to the establishment, and the number of vacancies which are likely to be "unfrozen":			
In the next 12 months	☐	☐	☐
In the next 5 years From *(insert year)* to *(insert year).*	☐	☐	☐

3.3.4 Deleted posts

Not all systems will be growing. So it is necessary to ask for information about deleted posts - that is, posts which have been removed from the establishment. Of course frozen vacancies count as deleted posts and should be included. This calls for a question like this:

Deleted posts			
Please give the number of posts which have been deleted from the establishment and any vacancies which have been "frozen" in the last 12 months.	☐	☐	☐

3.3.5 Future reductions

Similarly there should be a question about future reductions in the number of posts.

Future reductions	Professional	Para-Professional	Clerical
Please estimate the number of posts which are likely to be deleted from the establishment, and the number of vacancies which are likely to be "frozen":			
In the next 12 months	☐	☐	☐
In the next 5 years From *(insert date)* to *(insert date)*.	☐	☐	☐

These questions should provide the workforce planner with all the information necessary about supply and demand. In Volume 2 the questions have been combined and are presented in a single questionnaire.

3.4 Information about training

To complete the collection of information it is necessary to turn to the training institutions to find out about the output of newly qualified personnel. The objective here is to collect information about the nature of training on offer, about the actual output from the training programmes and about any likely future changes.

Inevitably, most attention will focus on training programmes which lead to a first qualification in library, archive or information studies. The workforce planner should not, however, overlook re-training or continuing education programmes. These can be important, particularly if the re-training upgrades the qualification level of the individual, perhaps by providing para-professionals with training courses which lead to a qualification as a professional. Continuing education programmes can also be important for those moving between jobs within the profession and for those seeking to re-enter the active supply.

What is called for is a relatively straightforward questionnaire directed to the training institutions. The questionnaire begins by identifying the different programmes which are offered by the institution and goes on to collect information about the actual output in the previous five years. It is also worth asking for information about the planned output from each programme in the following five years. An example of the sort of questionnaire which could be used to collect this information is given in Volume 2.

To supplement the statistical information it is worth asking for qualitative information about matters such as the way in which the curriculum is changing and about any factors which would inhibit the future development of the programmes. Again, an indication of the sort of questions which could be asked is contained in Volume 2.

3.5 Qualitative information

The statistical information which forms the basis for the questionnaires should provide the workforce planner with a fairly clear picture of the overall state of the workforce. It often helps, however, to supplement this statistical data with more general, or qualitative information. Here we are dealing with opinions and general concepts which cannot be described in simple numerical terms.

To collect this information it is possible to add a supplement to the basic questionnaire. This supplement asks for general information and provides the suppliers of the data with an opportunity to express their views.

The problem with information of this kind is that it is very difficult to analyse in a systematic way. In view of this, it is well worth restricting the supplementary questions to a few key issues in order to get an overall view of the state of things. If it seems that further information is required, perhaps on a particular aspect revealed by the information, it is always possible to select a sample of respondents and to interview them in greater detail about the particular topic.

So, the supplementary questionnaire should be restricted to key issues. These will probably include: past and current staffing difficulties; likely future changes in the service and the implications of these changes for the staffing position, and the content and nature of training. The supplementary questionnaire in Volume 2 shows how a number of questions can be asked to obtain information on these topics. In any particular situation there are likely to be local problems and issues which deserve further exploration. Questions on these subjects can be included but again it must be emphasised that the analysis of the results of such questions can be extremely time-consuming.

3.6 Conducting the survey

The actual conduct of the survey should be relatively straightforward providing that it is approached with common sense and a realistic time-scale.

The first step is to establish the mailing list and to ensure that the survey will cover all possible libraries, information units and archives within the scope of the study. It is at this stage that any decisions about sampling should be made. (See Section Three page 22).

Once the decision has been taken to proceed, the workforce planner can begin to prepare the ground by informing the library, archive and information community that the study will take place. It is at this stage that it might well be worth establishing a reference group or steering committee for the project.

As information about the project is disseminated, the planner can begin to produce a first draft of the questionnaires and the accompanying documentation. These should be subjected to a small pilot test, sending them to a group of respondents to complete and, in doing so, to identify any flaws in the design of the questionnaire. No matter how experienced the workforce planner, it is always worth pilot testing the questionnaire.

Once the completed returns have been received from the pilot test group it is possible to revise and then finalise the questionnaire and the accompanying documents. It is then necessary to decide on the dates for the survey. Choose a date which will be common to all. The end of the academic, calendar or financial (fiscal) year would all be suitable. The choice of date can be critical. The questionnaire will take time to complete and particularly busy times of the year should, therefore, be avoided. This often means avoiding the end of a financial or academic year. Equally, some employers may do most of their recruiting at a specific time of the year - often at the end of the academic year when new graduates are available. In such cases the staffing pattern can be distorted and that time of year should be avoided. It is on issues such as this that the advice of a reference group can be helpful.

The questionnaires should be sent out well in advance of the chosen date so that those who will be supplying the information have plenty of time to see what it is involved and to clarify any areas of uncertainty.

Both the questionnaire and the documentation should contain clear instructions about the date by which the questionnaires should be returned. Once this date has passed the workforce planner should take steps to obtain returns from those systems which have not responded. Ideally, non-respondents should first of all receive a letter reminding them that the deadline has passed and asking them to

return the questionnaire as soon as possible. This will increase the response rate but it may well be necessary to send a second reminder, probably one month after the deadline. When reminding a second time, it is often worth enclosing a new set of questionnaire forms as the chances are that the original set will by that time have gone missing.

When reminding non-respondents it is important to be tactful and to give some indication of an awareness of the problems which the librarian, archivist or information worker will be facing. It is also important to enclose a stamped, addressed envelope for the return of the questionnaire. Examples of the sort of letters that might be sent are given in Volume 2.

Throughout, the workforce planner should be guided by the overriding need to do everything possible to make the task of completing the questionnaire as simple and as easy as possible.

SECTION THREE. IN SUMMARY...

The objective of this section is to describe in detail the steps which will be required to collect the information.

The overall approach to collecting the information is governed by the scope of the study. Most studies will cover an entire country. Some will aggregate information from a number of countries to cover a region. It is difficult to produce reliable results from studies which cover only part of a country.

To collect the information two main surveys are required:

- *A survey of employing organisations.*
- *A survey of training institutions.*

In ideal circumstances all the employing organisations and training institutions would be surveyed. In some cases, however, it may be necessary to survey only a sample of services.

The information collected about the supply covers the size of the active supply and the flows into and out of it. Most of this information is collected by the survey of employing organisations. In addition, information about initial training is provided from the training institutions survey.

Information about demand covers the size of the current demand and the likely future changes.

It is possible to supplement this basic information with qualitative information collected by means of supplementary questionnaires. The overall conduct of the surveys is straightforward providing that it is carried out with common sense and a realistic time-scale.

SECTION FOUR: ANALYSING THE INFORMATION

The objective of this section is to show how the data can be analysed to indicate the main characteristics of the workforce and to calculate the future balance between supply and demand. Most of the analysis and calculation takes place on summary sheets which are contained in Volume 2. These summary sheets have been designed so that the number of calculations is reduced to a minimum. The only mathematical skill required is the ability to add, to subtract, and to calculate percentages.

4.1 Initial processing

As the questionnaires are returned the first task is to check them briefly to ensure that the addition is correct and that the results are consistent. Any errors, problems or queries should be rectified at this stage while the matter is still fresh in the mind of the person who completed the questionnaire.

The number of questionnaires returned should be recorded and from this the **response rate** should be calculated. The response rate is simply the number of questionnaires that have been returned expressed as a percentage of the number distributed. It should be possible to aim for a response rate of at least 75%. Such a response would give results which could, in nearly all cases, be said to be representative. If, after the closing date the response rate is below 75% the reminder letters should be used and any other necessary steps should be taken to increase the number of questionnaires returned. If, after all attempts had been made to ensure the maximum number of questionnaires were returned, the response rate was still well below 50% it would be necessary to treat the results with a considerable degree of caution and to make it clear in any report that the response rate to the survey was very low.

If the response rate is low there is sometimes a temptation to multiply all the figures by a factor to take account of the non-respondents. For example, if only 50% of the libraries made a return then it might seem possible to multiply all the figures by 2 to take account of the missing numbers. This is not something which should be undertaken. It will never be possible to know if the 50% who responded had the same characteristics as the 50% who did not. Indeed, there is a good chance that they will not be identical. So, any attempt to multiply or "gross up" at this stage would almost certainly produce very misleading figures. It is far better to perform the calculations on the figures supplied by the respondents, noting in any report that the results relate only to a proportion of all the libraries.

The next stage is to decide finally on the categories of library, archive and information system which will be used in the analysis. In Section 2.3 (page 16) it was suggested that it was useful to think in terms of the following seven different types of libraries, archives and information units:

- Public libraries
- National libraries
- University libraries
- College libraries
- School libraries
- Special libraries
- Archive services

Once the questionnaires have been returned it becomes possible to see whether there is a need for further divisions, perhaps for example, dividing special libraries into government libraries and industrial libraries. More likely it will be necessary to combine library types.

One reason why it is often useful to combine categories of library is that it increases the numbers in each category. If the numbers are small it is not possible to calculate accurate rates of flow into and out of the workforce. As a basic minimum, therefore, there should be at least ten people in each category of staff in each type of library. If, for example, the university libraries employ only eight professional staff, ten para-professionals and eighteen clerical staff then it would be wise to combine university libraries with college libraries to give more manageable numbers.

Also in Section 2.3 it recommended dividing the staff into three categories:

- Professionals
- Para-professionals
- Clerical staff

Such a division may not, however, be sensible in all countries. In Britain, for example, there is no commonly accepted category of para-professional staff. If the survey were being carried out in Britain, therefore, it would be necessary to use only two categories - professional and clerical. In some countries it may be possible to identify further categories of staff. If, however, more than three categories are used it will add significantly to the complexity of the analysis.

4.1.1 Master questionnaires

In order to ease the process of analysis it is worth transferring the information from each separate questionnaire on to master questionnaires, using one master questionnaire for each type of library. Collating the information in this way so that each master questionnaire contains the totals for that type of library will make the job of transferring the information to the summary sheets a great easier.

4.2 Summary sheets

Once all the data have been collated on to a single master questionnaire for each type of library, archive or information service, the next stage is to begin completing the summary sheets. These have been designed to simplify and give consistency to the process of analysis. Blank copies of the summary sheets are contained in Volume 2. The rest of this section will be devoted to working through each summary sheet in turn explaining where the information can be obtained from, what calculations need to be carried out and what results can be obtained.

To simplify the explanation a set of fictitious figures for an imaginary public library system has been used to show how the forms work and how the calculations can be performed.

4.2.1 Summary Sheet One: Staff employed, vacant posts, total posts

SUMMARY SHEET ONE: STAFF EMPLOYED, VACANT POSTS, TOTAL POSTS

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
1.1 STAFF EMPLOYED(Q2) Professional	37							
Para-Prof	91							
Clerical	63							
1.2 VACANT POSTS(Q6) Professional	0							
Para-Prof	3							
Clerical	3							
1.3 TOTAL POSTS(Q2+Q6) Professional	37							
Para-Prof	94							
Clerical	66							
1.4 VACANCY RATE (SS 1.2 & 1.3) Professional	0%							
Para-Prof	3.2%							
Clerical	4.5%							

This contains the basic information about the number of staff employed, the numbers of posts that are vacant and the overall total number of posts.

On the summary sheet, against the heading "Staff Employed" in the left-hand column, you will see "(Q2)". This means that the source of data on the number of staff employed is question 2 on the master questionnaire. Simply transfer the figures from the master questionnaire on to the summary sheet. In our example you can see that the imaginary public library system has 37 professional staff, 91 para-professionals and 63 clerical staff. SS refers to Summary Sheet.

Similarly, the source of data for "Vacant Posts" is shown as "(Q6)", so transfer the figures from question 6 on the master questionnaire on to the summary sheet. For our public library we see that there were no vacant professional posts, but that 3 para-professional and 3 clerical posts were vacant.

To obtain the figures for the **total posts** simply add the number of vacant posts in each category to the number of staff e.nployed. This gives us 37 professional posts, 94 para-professional and 66 clerical posts.

This summary sheet gives us the first indicator of the state of the workforce. The rate of vacancies shows in very broad terms the balance between supply and demand. Even when supply and demand are in balance there will always be a number of vacant posts as there is an inevitable time-lag between a member of staff leaving and a new person coming to occupy the post. So, we might expect a vacancy rate of between 3 and 5%. Anything lower than this tends to indicate a low level of occupational mobility which is often a sign that there is a surplus of staff. A vacancy rate above 5% might indicate that there is a shortage of staff and that posts are difficult to fill. It might, however, simply indicate that administrative difficulties are slowing down the recruitment process. So, before coming to any firm conclusions, it is necessary to look for other evidence.

In our example, if we express the number of vacancies as a percentage of the total posts we find that the **vacancy rate** is 0% for professional staff, 3.2% for para-professionals and 4.5% for clerical staff.

4.2.2 Summary Sheet Two: Numbers leaving jobs

Summary sheet two records the numbers of people who have left their jobs in the previous 12 months. All the necessary information can be obtained from question 4 on the master questionnaires. The figures for absolute loss - that is those leaving through death or retirement - are given in question 4.1. Internal departures from question 4.2 shows the numbers who moved to other jobs in the library, archive or information sector. Question 4.3 gives figures for wastage - these are the people who have moved out of the library, archive and information sector to work elsewhere, to continue education, to become unemployed and so on. The total numbers leaving can be obtained from question 4.4. It would, however, be worth double-checking that the total numbers leaving do represent the sum of the absolute loss, the internal departures and the wastage.

SUMMARY SHEET TWO: NUMBERS LEAVING JOBS

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
2.1 ABSOLUTE LOSS(Q4.1) Professional	1							
Para-Prof	0							
Clerical	0							
2.2 INTERNAL DEPARTURES(Q4.2) Professional	1							
Para-Prof	2							
Clerical	0							
2.3 WASTAGE(Q4.3) Professional	2							
Para-Prof	6							
Clerical	13							
2.4 TOTAL NUMBERS LEAVING(Q4.4) Professional	4							
Para-Prof	8							
Clerical	13							
2.5 TURNOVER RATE (SS1.1 & Q4.4) Professional	10.8%							
Para-Prof	8.8%							
Clerical	20.6%							

Finally, it is worth calculating the **turnover rate.** The turnover rate is the number of staff who leave during the year expressed as a percentage of the number employed. So, take the total numbers leaving from summary sheet 2.4 and express them as a percentage of the staff employed from summary sheet 1.1. This will give the overall turnover rate. Using our example the turnover rates are:

- Professional $\frac{4}{37}$ x 100 = 10.8%
- Para-Professional $\frac{8}{91}$ x 100 = 8.8%
- Clerical $\frac{13}{63}$ x 100 = 20.6%

While a degree of staff turnover is desirable in terms of introducing new ideas to organisations and providing individuals with variety in their overall career, a high rate of turnover can be disruptive to an organisation and it can create a very high training cost. Equally, very low levels of turnover mean that the people tend to get stuck in jobs and begin to feel that there is little scope for movement and promotion.

So, it is important to try to get the balance right. A turnover rate of 10% or less usually indicates a fairly static workforce, whereas one of over 25% indicates one in which there is a high rate of loss. In our example, the turnover of professionals and para-professionals is fairly static while that for clerical staff is on the high side.

4.2.3 Summary Sheet Three: Numbers joining service

SUMMARY SHEET THREE: NUMBERS JOINING SERVICE

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
3.1 TRAINING INPUT(Q5.1) Professional	1							
Para-Prof	8							
Clerical	0							
3.2 INTERNAL ARRIVALS(Q5.2) Professional	3							
Para-Prof	3							
Clerical	1							
3.3 RE-ENTRY(Q5.3) Professional	2							
Para-Prof	0							
Clerical	10							
3.4 TOTAL NUMBER JOINING(Q5.4) Professional	6							
Para-Prof	11							
Clerical	11							

Summary sheet three records information about the numbers of staff who joined the service in the previous 12 months. This information is obtained from question 5 on the master questionnaire. The general pattern is very similar to summary sheet two. **Training input** - representing the numbers of staff who join straight from the training institutions - is given in question 5.1. **Internal arrivals** represents the numbers who have come from other libraries, archives and information services within the country and the figure comes from question 5.2. **Re-entry** represents the numbers who have returned to the active supply from the latent supply and comes from question 5.3.

It would be normal to expect the largest flow to come from the internal movement within the workforce. These are the people who should have both the training and experience necessary to enable them to make a fairly rapid contribution to the service. In contrast the staff who join from training institutions and who re-enter from the latent supply are likely to require a period of induction training and a further period to build up their experience.

In our example, people are joining in a variety of different ways. There is a significant flow of para-professionals from the training institutions but only one professional came straight from a training course. As might be expected a significant number of people arrived from other libraries, archives or information services in the country. Two professional members of staff joined the service having previously been part of the latent supply and this was also the most significant source for clerical staff. It should, perhaps, be pointed out here that the latent supply of clerical staff is extremely large. It includes all the people within the economy who would be eligible to obtain a job as a clerical worker in a library, archive or information service. Because of this most people who take up clerical jobs in libraries, archives or information services are counted under the "re-entry" category even though most of them will not have worked in the sector before.

An overall comparison between the numbers joining through re-entry and the numbers leaving as wastage (summary sheet 2.3) will give an indication of whether there is a net gain from or a net loss to the latent supply. A significant net gain to the latent supply could, for example, indicate a high rate of emigration from the country and would mean that the country was bearing a heavy cost of training individuals who then went to work elsewhere. Alternatively, a significant net loss from the latent supply could indicate a general return to work by people who had left previously for a variety of reasons. Such a return to work could reduce significantly the training output required from the training institutions.

4.2.4 Summary Sheet Four: Staff receiving training

SUMMARY SHEET FOUR: STAFF RECEIVING TRAINING

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
4.1 THIS COUNTRY(Q3.1) Professional	2							
Para-Prof	6							
Clerical	0							
4.2 OTHER COUNTRIES(Q3.2) Professional	0							
Para-Prof	0							
Clerical	0							

Summary sheet four records the information about the number of staff who are receiving training while remaining in the employment of a library, archive or information service. It records the data collected by questions 3.1 and 3.2 on the questionnaire.

It is apparent that in our example the public library is devoting considerable efforts to training para-professionals and that it has focused all its formal training within the country.

4.2.5 Summary Sheet Five: Net growth in posts

Summary sheet five records the net growth in the number of posts, that is the actual increase in the overall numbers. The information for this summary sheet is taken from questions 7, 8, 9 and 10 from the master questionnaire. Begin with the growth in the last 12 months - 5.1 on the summary sheet. To arrive at this net figure take the figures given in question 7 which shows the number of posts added during the year and subtract from them the figures shown in question 9 which record the number of posts deleted during the year. The result is the net growth figure, or the actual increase which took

place. It is, of course, possible that more posts were deleted than were added. In such cases there would be a negative growth and this would be indicated on the summary sheet by a minus sign.

SUMMARY SHEET FIVE: NET GROWTH IN POSTS

(To obtain the net growth figure subtract the answers to questions 9 and 10 from the answer to questions 7 and 8)

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
5.1 LAST 12 MONTHS(Q7-Q9) Professional	2							
Para-Prof	6							
Clerical	1							
5.2 NEXT 12 MONTHS(Q8.1-Q10.1) Professional	3							
Para-Prof	5							
Clerical	4							
5.3 NEXT FIVE YEARS(Q8.2-Q10.2) Professional	12							
Para-Prof	20							
Clerical	20							

To obtain the corresponding information for the likely growth in the next 12 months, take the figures in question 8.1 which show the number of posts which are likely to be created in the next 12 months and subtract from them the number likely to be deleted as shown in question 10.1. This gives the net growth which is likely during the next 12 months.

Do the same with the figures in question 8.2 and question 10.2 to obtain the likely net growth in the next five years.

It is worth looking in some detail at the net growth as recorded on this summary sheet. It would be worth looking to see whether there are any changes in the growth from year to year. For example, is next year's growth about the same as this year's? Is the next five year's growth equivalent to more or less than five times next year's growth? It is important to be aware of any unevenness as it may be necessary to take this into account when interpreting the information later on. It is also important to bear in mind that information about growth in the previous 12 months should be quite reliable whereas information about future growth can only ever be an estimate. Any variations between the past and previous growth may be no more than a reflection of the optimism or pessimism of the person completing the questionnaire. It may also be worth calculating the **net growth rate.** That is the net growth expressed as a percentage of the total number of posts. By calculating net growth rates in this way it should be possible to make comparisons between the different types of library, archive or information service. Any significant differences in the rates of growth should be noted.

We can see from our example that the growth last year was, in very broad terms, smaller than the growth next year and in particular, the number of clerical posts will grow significantly next year. Looking at the medium-term it seems that the growth over five years is about equivalent to five times the growth predicted for next year. There would, therefore, appear to be a period of steady expansion in prospect.

4.2.6 Summary Sheet Six: Rates of wastage, re-entry, etc.

We have seen how calculating rates of turnover and growth can assist our understanding of the characteristics of the workforce. Summary sheet six has been designed to allow the calculation of the **absolute loss rate**, the **internal departure rate**, the **wastage rate**, the **training input rate**, the **internal arrivals rate** and the **re-entry rate.** All of these will help us to deepen our comprehension of the workforce and the changes which are taking place within it. One of the main reasons why the information is expressed in percentages as a rate is that it permits comparison between different types of library, archive or information service, between different categories of staff and between different years.

To calculate the rates we need to express the actual losses and gains which took place during the year as a percentage of the supply at the **beginning** of the year. If the rates were simply calculated as a percentage of the supply at the **end** of the year it could give a misleading picture.

SUMMARY SHEET SIX: RATES OF WASTAGE, RE-ENTRY, ETC.
PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

Prof Para-Prof Clerical

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
6.1 Supply now (SS1) (Staff employed)	39	91	63					
6.2 Plus absolute loss (SS2)	1	0	0					
6.3 Plus internal departures (SS2)	1	2	0					
6.4 Plus wastage (SS2)	2	6	13					
6.5 Minus training input (SS3)	1	8	0					
6.6 Minus internal arrivals (SS3)	3	3	1					
6.7 Minus re-entry (SS3)	2	0	10					
6.8 Equals supply last year	35	88	65					
6.9 Absolute loss rate	2·9	0	0					
6.10 Internal departure rate	2·9	2·3	0					
6.11 Wastage rate	5·7	6·8	20					
6.12 Training input rate	2·9	9·1	0					
6.13 Internal arrivals rate	8·6	3·4	1·5					
6.14 Re-entry rate	5·7	0	15·4					

You can see from the note at the top of the summary sheet that separate sheets will be needed for professional, para-professional and clerical staff. The only reason for this is that there is simply not enough space on the page to fit everything in. In our example, however, the first three columns have been re-labelled so that the information for the professional, para-professional and clerical staff in our imaginary public library can be shown.

All the information required for the first seven rows of the summary sheet can be obtained from information already recorded on summary sheets one, two and three. On summary sheet six what we are actually doing is trying to work back and to calculate what the supply was last year. So we begin with the **supply now** - that is the number of staff employed, as recorded on summary sheet one. To this figure we add the numbers who have left during the year - the absolute loss, the internal departures and the wastage. All

these figures come from summary sheet two. We then subtract the number of staff who arrived during the year - the training input, the internal arrivals and the re-entry. This information comes from summary sheet three. The result of the sum is the **supply last year.**

Using our example we can see that last year our public library had 35 professionals, 88 para-professionals and 65 clerical staff.

To obtain the **rates** we now have to express the figures for absolute loss, internal departures, etc. as a percentage of the figure for the supply last year. Thus, in our example, the absolute loss rate for professionals is (1÷35) x 100 = 2.9%

Carry on like this until all the rates are calculated.

As we have noted, the main value in the rates lies in the fact that they permit comparison. Once the rates have been calculated, compare them for the different types of library, archive and information service and note any variations. Of more value are comparisons over time. Among professionals, for example, a high rate of wastage can indicate frustration with the profession. Accordingly, a steadily rising rate of wastage should give cause for concern.

4.2.7 Summary Sheet Seven: Supply and demand - the short-term

We are now in a position to begin making forecasts. It can start with the short-term, or the changes which are likely to take place in the coming 12 months. We know what is likely to happen to the demand. The questionnaire asked employers to estimate the likely growth in the number of posts in the next 12 months and on summary sheet five we recorded the **likely net growth** in the next 12 months. We do not, however, know what will happen to the supply during the next 12 months. The best we can do is to assume that last year's rates of loss and gain were typical and are thus likely to be repeated next year. As surveys are repeated from year to year, it becomes easier to see whether the rates of change in the previous year were, in fact, typical and to make allowances where they were not. For the present, however, we must rely on the straightforward assumption that what happened last year is likely to happen next year as well.

So, we must begin with the figure for **supply now.** This is the number of staff employed and is taken from summary sheet one. This figure should be inserted in the top row (7.1) of the summary sheet. We then need to turn to summary sheet six to obtain the rates for absolute loss, internal departures, etc. Use each rate in turn to calculate the likely change in the coming year. Thus, taking the professional staff column in our example, the likely changes are:

- **Absolute loss**

  Absolute loss rate from SS6= 2.9%

  Supply now = 37

  So, likely absolute loss next year = $\frac{37}{100}$x2.9=1.07

- **Internal departures**

  Internal departure rate from SS6 = 2.9%

  Supply now = 37

  So, likely internal departure next year = $\frac{37}{100}$x2.9=1.07

- **Wastage**

  Wastage rate from SS6 = 5.7%

  Supply now = 37

  So, likely wastage next year = $\frac{37}{100}$x5.7=2.11

SUMMARY SHEET SEVEN SUPPLY AND DEMAND - THE SHORT TERM PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

	Prof Pub	Prof Nat	Para-Prof Univ	Clerical Coll	Clerical Sch	Clerical Spec	Clerical Arch	Clerical Total
7.1 Supply now (SS1) (Staff employed)	37	91	63					
7.2 Minus absolute loss (SS2)	1	0	0					
7.3 Minus internal departures (SS2)	1	2	0					
7.4 Minus wastage (SS2)	2	6	13					
7.5 Plus training input (SS3)	1	8	0					
7.6 Plus internal arrivals (SS3)	3	3	1					
7.7 Plus re-entry (SS3)	2	0	10					
7.8 Supply next year	39	94	61					
7.9 Total posts now (SS1)	37	94	66					
7.10 Plus net growth next 12 months (SS5)	3	5	4					
7.11 Demand next year	40	99	70					
7.12 Demand next year	40	99	70					
7.13 Minus supply next year	39	94	61					
7.14 Training and recruitment need next 12 months	1	5	9					

Carry on until all the figures in rows 7.2 to 7.7 are completed, rounding the figures to whole numbers. Then add and subtract as indicated on the sheet. The result will be the likely **supply next year (7.8).**

We now need to look at the likely demand next year. Begin with the **total posts now** from summary sheet one. Then take the figure for the likely **net growth in the next 12 months** from summary sheet five. Add the two together and the result is the likely **demand next year (7.11).**

We now know what the demand is likely to be (7.12) and what the supply is likely to be (7.13). If we subtract the supply from the demand we are left with the shortfall, or the **training and recruitment need for the next 12 months (7.14).**

In other words, what we have done is to forecast supply, forecast demand and calculate the balance between the two.

Of course, if the future supply and demand are the same then everything would be in balance and the recruitment and training need would be zero. This would mean that the difference between the flows into and out of the workforce were equivalent to the net growth in posts, and that no action was required to maintain the current balance.

If, on the other hand demand exceeded supply, as it does in our example, there would be a positive recruitment and training need - in our case, a need to recruit and train one professional, five para-professionals and nine clerical staff. This means that if things go on as they are, this is the scale of the shortage that will arise. Looked at another way, to ensure a balance between supply and demand it is necessary to recruit and train one more professional, five more para-professionals and nine more clerical staff.

Of course, it is quite possible for supply to exceed demand - in this case the recruitment and training need would be negative, indicating that the level of recruitment and training should be reduced to ensure a balance between supply and demand.

It will, of course, be worth comparing the recruitment and training need for the different categories of staff and for the different types of libraries, archives and information services. It is quite possible, for example, for an overall balance to obscure shortages in one sector and surpluses in another.

4.2.8 Summary Sheet Eight: Supply and demand - the medium term

SUMMARY SHEET EIGHT SUPPLY AND DEMAND - THE MEDIUM TERM
PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

	Prof Pub	Para-Prof Nat	Clerical Univ	Coll	Sch	Spec	Arch	Total
8.1 Supply now (SS1) (Staff employed)	37	91	63					
8.2 Minus absolute loss (SS2)	5	0	0					
8.3 Minus internal departures (SS2)	5	10	0					
8.4 Minus wastage (SS2)	10	30	65					
8.5 Plus training input (SS3)	5	40	0					
8.6 Plus internal arrivals (SS3)	15	15	5					
8.7 Plus re-entry (SS3)	10	0	50					
8.8 Supply in 5 years	47	106	53					
8.9 Total posts now (SS1)	37	94	66					
8.10 Plus net growth in next 5 years (SS5)	12	20	20					
8.11 Demand in 5 years	49	114	86					
8.12 Demand in 5 years	49	114	86					
8.13 Minus supply in 5 years	47	106	53					
8.14 Training and recruitment need in medium term	2	8	33					

Having looked at the balance between supply and demand in the short-term it is worth looking at the medium-term. For this we use summary sheet eight which looks at supply and demand over the next five years.

You can see that summary sheets seven and eight are very similar. We begin with **supply now** which is the figure for staff employed from summary sheet one. To this we need to add and subtract the likely flows of absolute loss, internal departures, etc. which will take over the next five years. To be precise, we should take the rates of absolute loss, etc. from summary sheet six and use them to calculate the actual losses and gains during each of the next five years. We are, however, dealing with forecasts and figures which themselves are subject to fairly generous margins of error and it is probably not worth attempting to aim for such precision. Instead we can take the easier course by taking the figures from rows 7.2 to 7.3 on summary sheet seven and simply multiplying each by 5. Using our example this gives the following figures for professional staff:

• **Absolute loss**	Absolute loss in next 12 months =	1
	So, absolute loss in next 5 years=	1x5=5
• **Internal departures**	Internal departures in next 12 months =	1
	So, internal departures in 5 years =	1x5=5
• **Wastage**	Wastage in next 12 months =	2
	So, wastage in next 5 years =	2x5=10

Carry on until all the figures in rows 8.2 to 8.7 are complete. Then add and subtract as indicated on the sheet. The result will be the likely supply in five years time. In the case of our example, 47 professionals, 106 para-professionals and 53 clerical staff.

We now need to look at the likely demand in five years. We know what the figure for **total posts now** is - it comes from summary sheet one. We also know from summary sheet five what the **net growth in five years** is likely to be. If we add these figures together we get an estimate of the likely **demand in five years.**

In the case of the professional staff in our imaginary library, we started with 37 posts, to which we are likely to add 12 more in the coming five years, giving a total demand in five years of 49 professional posts.

We now know what the future demand is likely to be (8.12) and what the future supply is likely to be (8.13). If we subtract supply from demand we are left with the **recruitment and training need** in the **medium term** or the next five years (8.14).

In our example, the recruitment and training need is for two professionals, eight para-professionals and 33 clerical staff.

It is well worth comparing the recruitment and training need in the short- and the medium-term. Services do not expand at a constant rate and it is not always safe to expect the recruitment and training need to remain constant from year to year. In our example it can be seen that there is a significant variation. One extra professional is needed in the next year, but only two more are needed in the next five years. Similarly, five para-professionals are needed in the short-term but only eight in the medium-term. On the other hand, there appears to be a more enduring shortage of clerical staff - nine are needed in the short-term and 33 in the medium-term.

When planning a strategy to bring supply and demand into balance it is obviously necessary to consider immediate requirements as well as those in the medium-term.

4.2.9 Summary Sheet Nine: Output from training institutions

SUMMARY SHEET NINE OUTPUT FROM TRAINING INSTITUTIONS

	Professionals	Para-Professionals
9.1 YEAR 1	20	32
9.2 YEAR 2	22	27
9.3 YEAR 3	19	28
9.4 YEAR 4	21	31
9.5 YEAR 5 THIS YEAR	20	30
9.6 YEAR 6	20	30
9.7 YEAR 7	20	30
9.8 YEAR 8	25	40
9.9 YEAR 9	25	40
9.10 YEAR 10	25	40

It only remains to summarise the information collected by means of the questionnaire to training institutions. Summary sheet nine provides a means of doing this. It simply records the total output of professionals and para-professionals from the training institutions for the previous five years and the following five years.

Using this summary sheet it is possible to see how the output varies from year to year, and in particular how it is likely to change in the future. This can then be compared directly with the future recruitment and training needs.

In the example shown it would appear that in the past the training institutions have been aiming for an output of 20 professionals and 30 para-professionals for each of the last five years and that they will continue to do this for the next two years. After that time they plan to expand their output to 25 professionals and 40 para-professionals. This means that over the next 12 months there will be no **extra** professionals or para-professionals produced **over and above current levels of output.** Over the next five years, however, an **extra** 15 professionals and 30 para-professionals can be expected.

These figures can then be directly compared with the recruitment and training need which shows how many more (or less) staff need to be recruited **over and above current levels of output.**

4.3 Supplementary information

So far, we have been concerned with the processing and analysis of the statistical information contained in the questionnaires. No attempt has been made to take account of the qualitative information contained in the supplementary questionnaires. It is, obviously, difficult to process and summarise this narrative information. The only practical way in which it can be dealt with is to divide the questionnaires into the different types of library, archive or information service. Then, taking each question in turn, to go through the questionnaires noting the different opinions and views that are expressed and attempting to build up an overall picture. In many cases it will be easy to identify a consensus and simply to note any dissenting views. There will, however, always be topics about which there is no clear agreement.

Once the views for each type of library have been collated it becomes possible to take each question in turn and to see how the opinions vary from one type of library to another.

Analysing the qualitative information in this way should provide the workforce planner with a deeper understanding of the developing situation. Not only will it throw light on matters such as the rates of turnover and growth, but it should also provide clues about the way services will develop in future.

SECTION FOUR: IN SUMMARY...

The objective of this section is to show how the information can be analysed to calculate the current and future balance between supply and demand.

The initial step is to decide on the number of categories to be used in the analysis. Most information workforce studies use three categories of staff and seven different types of library, archive and information service. These may be varied according to the particular requirements of individual countries.

Basic information from the employing organisations' questionnaire is tabulated on summary sheets one to five.

Summary sheets six to eight are used to carry out the basic calculations necessary to predict future levels of supply and demand.

The balance between supply and demand is reflected by the training and recruitment need.

Information about the output from the training institutions is recorded on summary sheet nine.

Qualitative information from the supplementary questionnaires is analysed and used to deepen the understanding of the basic statistical information.

SECTION FIVE: PRESENTING AND INTERPRETING THE RESULTS

The objective of this section is to indicate how the results of the forecasting process can be presented and interpreted in a way in which they are most likely to contribute to our understanding of the workforce and the changes which it is experiencing.

Perhaps the most important point to make is that workforce planning should never be considered in isolation from the rest of the system. This means that any report on the workforce should begin with a brief review of the structure and recent development of the library, archive and information system. Such a review should focus in particular on any major changes which have contributed to the particular circumstances of the workforce. Of equal importance are any emerging trends which could affect the workforce in the future.

Just as it is important to place the results in the context of the overall library, archive and information service, it is necessary to look at the general employment context. Overall shortages of labour or conversely high levels of unemployment will have a bearing on the behaviour of the information workforce and it is necessary to take them into account. It is usually possible to prepare a fairly thorough review of the general employment context from published sources. Look particularly for information about skilled staff and the labour market for graduates. Similarly, attempt to develop an appreciation of the overall economic position, remembering that in most countries the great majority of libraries, archives and information services are funded by the state and are thus much affected by fluctuations in the level of public expenditure.

Having set the scene the report can turn to the results of the survey. It is important to present the results in full, possibly using the summary sheets to provide the general format. Many people will want to be able to look at the actual figures themselves as well as your interpretation of the results. Remember to state quite clearly the response rate to the survey.

In order to build up a picture it may be worth following the sort of sequence that has been adopted for the summary sheets in Section Four. Looking at each aspect in turn and attempting to provide a general commentary, highlighting the most significant findings. This commentary can be enhanced by information, and perhaps quotations, from the information collected in the supplementary questionnaires.

While it is necessary to present the results in full, your interpretation will focus on a number of key workforce indicators, and it is worth looking at each of these in turn. To help illustrate the significance of the indicators, we can consider the results which relate to our imaginary public library.

5.1 Key workforce indicators

These workforce indicators draw attention to the different characteristics of the workforce and provide a basis for comparing the performance of different types of library, archive and information service and, more particularly, they provide a basis for comparisons over time.

5.1.1 Rate of vacancies

The rate of vacancies is simply the number of vacant posts expressed as a percentage of the total number of posts. This figure has been calculated on summary sheet one. As we noted in Section Four (page 41) it is normal to have a vacancy rate of between 3 and 5%. This is because there is always a time-lag between a member of staff leaving and a new person arriving to occupy the post. So, bearing this in mind, we can use the rate of vacancies to indicate the overall balance between the supply of staff and the demand for them. In very general terms vacancy rates below 3% usually indicate a surplus of staff while vacancy rates in excess of 5% indicate a shortage.

In our example the vacancy rate for professional staff was 0%, for para-professionals 3.2% and for clerical staff 4.5%. From this it would seem that there is little to worry about as far as para-professional and clerical staff are concerned. The vacancy rate for professional staff, on the other hand, is very low and might indicate a significant surplus of staff. We should, however, remember that we are only considering the proportion of the workforce employed in public libraries. It is quite possible that the overall position is significantly different.

5.1.2 Turnover rate

The turnover rate is the number of staff who leave during the year expressed as a percentage of the number employed at the beginning of the year. Summary sheet two was used to calculate this figure. The turnover rate provides a broad indication of the degree of occupational mobility within the workforce. It also provides an indicator of the average length of time staff spend in a job - a turnover rate of 10% means that one tenth of the workforce leaves each year or, looked at another way, the average length of time in one job is ten years. Similarly, a turnover rate of 20% indicates an average length of time in a job of 5 years. It would seem, therefore, that a turnover rate of 10% indicates a fairly static workforce while a turnover rate of 25% is characteristic of a workforce with a fairly high rate of loss.

In our example the turnover rate for professional staff was 10.8%, for para-professionals it was 8.8% while for clerical staff it was 20.6%. This indicates a high rate of occupational mobility among clerical staff. This is not unusual as there are often many alternative employment possibilities for staff with clerical skills. On the other hand, the turnover rate for professional and para-professional staff is on the low side and could indicate a degree of stagnation in the employment market.

5.1.3 Comparison of wastage and re-entry

The flows of wastage and re-entry indicate the movement between the active supply and the latent supply. If we subtract the re-entry from the wastage we are left with the net gain to, or net loss from the latent supply. In other words, we know whether the latent supply is growing or declining in size. A significant net gain to the latent supply could mean that the library, archive and information system was bearing a heavy cost of training individuals who then went to work elsewhere. Alternatively, a significant net loss from the latent supply could indicate a general return to work by people who had left previously for a variety of reasons. Such a return to work can reduce significantly the training output required from the training institutions.

In our example the wastage of professional staff was exactly balanced by the re-entry while there was a net gain in the latent supply of 6 para-professionals and 3 clerical staff. On page 44 we noted that for clerical staff the latent supply is extremely large, including all the people within the economy who are eligible to obtain a job as a clerical worker in a library, archive or information service. We do not, therefore, need to worry too much about the net gain of clerical staff. The net gain of six para-professionals is, however, something to consider, indicating as it does a temporary loss of trained staff from the active supply.

5.1.4 Training of staff

Summary sheet four shows the figures for the number of staff who are receiving training while remaining in the employment of libraries, archives and information systems. In our example we found that 2 professional staff and 6 para-professional staff were in this position. This seems to indicate that a considerable effort is being made to train para-professional staff presumably to enable them to become qualified as full professionals. It is, however, worth expressing the number of staff receiving training as a percentage of the total number of staff employed in this category. In our case this shows that 5.4% of professional staff and 6.6% of para-professional staff are receiving training. The balance is, therefore, much more even.

This shows quite nicely the importance of expressing figures as percentages or rates so that like can be compared with like.

5.1.5 Net growth in posts

Summary sheet five shows the net growth in the number of posts during the last 12 months, over the next 12 months and over the next five years. It is worth looking at the growth in the actual number of posts and comparing the growth in the different time periods. It is, however, even more useful to calculate growth rates by expressing the actual growth during a period as a percentage of the number of posts at the beginning of that period. So, using our example we can calculate the following growth rates:

	Professional	Para-Professional	Clerical
Last year	5.7%	6.8%	1.5%
Next year	8.1%	6.4%	6.1%
Next 5 years	32.4%	21.3%	30.3%

This shows that, by expressing the figures as percentages, it is possible to get a better comparison between the different categories of staff and between the different time periods. In a full survey, of course, it would also be possible to compare the growth rates of different types of libraries.

5.1.6 Rates of loss and gain

These are the key indicators which were calculated on summary sheet six. They provide a means of comparison between the different types of libraries and between the different categories of staff.

We begin with the **absolute loss rate.** This is the proportion of the workforce which left in the previous year as a result of death or retirement.

If the members of the workforce were spread evenly over the whole age range we might expect between 2 and 2.5% to leave each year from death or retirement. Most libraries, archives and information services, however, have expanded significantly in recent years and it is usual, therefore, to find a workforce which is predominantly young. In the light of this it is not unusual to find absolute loss rates of below 1%.

In our example there is no absolute loss from the para-professional and clerical staff but there is a high absolute loss rate of 2.9% for professional staff. This would seem to indicate a high average age and a significant need to replace senior, experienced staff, perhaps pointing to the need for training or management development programmes.

Next is the **internal departures rate.** This is the rate at which people leave to take up other jobs in the library, archive and information sector. It would not be unusual to find an internal departure rate of about 10%. Anything much above this would indicate a high rate of occupational mobility within the sector and this is often characteristic of an overall shortage of staff. An internal departure rate of much below 10% can indicate general stagnation within the workforce.

In our example the internal departure rates are very low - 2.9% for professional staff, 2.3% for para-professionals and 0% for clerical staff.

While the internal departure rate illustrates movement within the library, archive and information sector the wastage rate indicates movements outside the sector. It would be normal to expect that the wastage rate was much below the internal departure rate, indeed a wastage rate of more than 5% would represent a significant loss to the profession as trained and experienced people went elsewhere.

Our example tends to indicate this with wastage rates of 5.7% for professional staff, 6.8% for para-professional staff and 20% for clerical staff. Wastage rates of this magnitude might well indicate that there was a significant degree of frustration within the workforce or that prospects elsewhere were substantially better. Generally speaking, there is cause for concern if the wastage rate is higher than the internal departures rate.

Having considered the people who have left their jobs in the previous year, we now move to those who arrived to replace them. We begin with the training input rate, this indicates the magnitude of the new entrants to the workforce from training institutions. A high

training input rate - above 5% - probably indicates that the workforce overall is fairly young and inexperienced. A low training input rate - below 5% - indicates an ability to attract experienced staff in preference to those who have only just completed their qualifications.

In our example the training input rate for professionals is fairly low at 2.9% while the rate for para-professionals is high at 9.1%. The training input rate for clerical staff is, of course, always likely to be zero.

The internal arrivals rate shows the numbers who have come from other jobs in the library, archive or information sector. Over the workforce as a whole the internal arrivals rate should correspond with the internal departures rate with anything over 10% indicating a high rate of occupational mobility.

In the case of individual types of libraries an internal arrivals rate which is higher than the internal departures rate would indicate that this particular type of library was able to draw staff from other types of library. In the case of our imaginary public library service the internal arrivals rates of 8.6% for professional staff, 3.4% for para-professional staff and 1.5% for clerical staff are all higher than the corresponding internal departures rates. This would seem to indicate that conditions in the public library service are such that they attract people away from other types of library, archive or information service. If, on the other hand, the rate of internal arrivals was lower than the rate of internal departures it would mean that there was a net loss to the rest of the sector indicating that the public library was bearing a disproportionately high training cost.

The rate of re-entry indicates the extent to which people are moving from the latent supply. A high rate of re-entry - above 5% - indicates that the system is able to attract people back into active employment. This seems to be the case with our public library where the re-entry rate for professional staff is 5.7%. On the other hand, the re-entry rate for para-professionals is 0% and this would seem to indicate a failure to attract trained staff back into the active supply.

5.1.7 The supply and demand balance: the short-term

The measure of the balance between supply and demand is the training and recruitment need. We have already noted (page 51) that if the training and recruitment need is positive this indicates that demand exceeds supply. If the training and recruitment need is negative then supply exceeds demand.

The training and recruitment need can be looked at in a number of different ways. First of all, we can consider the actual numbers. In the case of our public library we can see from summary sheet seven that the actual training and recruitment need during the next 12 months is for one professional, five para-professionals and nine clerical staff. This tells us that the public library must increase its training and recruitment but tells us very little else.

We learn a little more if we compare the training and recruitment need with the overall size of the staff. One way to do this is to express the training and recruitment need as a percentage of the total number of staff employed. This shows that for our public library the training and recruitment need is equivalent to 2.7% of the professional staff, 5.3% of the para-professionals and 14.3% of clerical staff. This begins to indicate the relative significance of the training and recruitment need for the different types of staff.

We can also compare the training and recruitment need with the current levels of recruitment by expressing it as a percentage of the total number of staff joining the service. In our case this gives us figures of 16.7% for professional staff, 45.5% for para-professionals and 81.8% for clerical staff. What this means is that a small increase in professional recruitment is required but that the level of recruitment of para-professional staff needs to be increased by nearly 50% while the recruitment of clerical staff will have to be almost doubled.

Presenting the figures in this way makes it easier to compare the position in the different types of library.

The balance between supply and demand becomes of much greater significance when looked at over the whole library, archive and information sector. If there is a significant training and recruitment need over the sector as a whole it can call for a substantial expansion of the output from the training institutions. Alternatively, it might be possible to increase the rate of re-entry from the latent supply. This might be achieved by providing re-training courses and opportunities for individuals to up-date their skills and expertise, or by arranging employment opportunities so that they can be taken up by people with family commitments - increasing the number of part-time posts, for example.

5.1.8 The supply and demand balance: the medium-term

Summary sheet eight shows what the training and recruitment need will be in the medium term. In the case of our public library there is a need for an additional 2 professional staff, 8 para-professionals and 33 clerical staff.

Just as with the short-term training and recruitment need it is possible to manipulate these figures to provide a more detailed picture.

5.1.9 Output of training institutions

Basically what we are looking for here is to see whether the output is expanding or contracting from its current level. In particular, we need to ask whether the expansion or contraction compares with the recruitment and training need.

Having considered each of the workforce indicators in turn it should be possible to summarise in the form of a brief commentary assessing the significance of the findings and their implications for the future. Information contained in the supplementary questionnaire will make a valuable contribution to this commentary.

5.2 Recommendations for action

The final section of the report should consider the action which appears to be called for in the light of the findings. This is perhaps the most difficult part of the report to write. The workforce planner needs to ensure that some serious consideration is given to the results of the study. In most cases, however, the workforce planner will not be in a position to take the necessary action independently. It is usually necessary to work through other individuals and organisations. The workforce planner, therefore, has to recommend that general consideration is given to the findings and that there is a process of consultation between those responsible for developing the library, archive and information services and those responsible for the training institutions.

The precise framework within which this process of consultation will take place will, for obvious reasons, vary from country to country. It is impossible, therefore, to make firm suggestions or recommendations in a manual like this. The important thing is that the process of consultation should take place and, wherever possible, it should be integrated into an overall planning framework.

SECTION FIVE: IN SUMMARY...

The objective of this section is to indicate how the results of the forecasting process can be interpreted and presented in a way which is most likely to contribute to the overall planning process.

Information workforce planning should not be seen in isolation. The results of the workforce survey need to be set within the context of the development of the library, archive and information system as a whole and also within the context of the developing employment market.

The results of the survey should be presented so that they build up a picture of the workforce. The interpretation should focus on the key workforce indicators.

Information from the supplementary questionnaires should be used to interpret the basic results.

The report should conclude with recommendations for further consideration of the findings as part of the planned development of the library, archive and information system as a whole.

SECTION SIX: DEVELOPING THE WORKFORCE PLANNING SYSTEM

The objective of this section is, very briefly, to indicate the most useful ways in which the workforce planning system can be extended.

The forecasting system which is outlined in this manual provides basic information about the library, information and archives workforce. As a once-off study the information is of value but that value is limited because it only provides a snapshot of a continuously developing system. It will certainly add to our understanding of the way in which the information workforce is developing and it can provide a valuable input to the wider planning process. Its value can, however, be increased in a number of ways.

Of far greater value is information gained from surveys repeated at regular intervals, perhaps every two or three years. This repetition provides an opportunity to see how the workforce is developing over time and, in particular, to see how the rates of wastage, re-entry, etc. are developing. Regular repetition of this kind would increase considerably our understanding of the workforce.

As this understanding deepens so we will begin to ask other questions about the workforce. The survey as it stands, for example, tells us nothing about the age structure of the workforce. This can be critical. A relatively young workforce is likely to have very different characteristics from those possessed by a mature workforce. These characteristics can have a bearing on the way in which library, archive and information services are organised and the way in which jobs are structured.

It would be possible to collect information about the age structure of the workforce through a simple development of the basic questionnaire used for this manual. All that would be required would be to ask for the information about the number of staff in employment to be sub-divided into different age groups.

Similarly it would be possible to introduce a division into male and female to take account of different participation rates (see page 25). Such development of the basic technique should, however, only be considered once the system has become well established and the people responsible for administering it have developed a sufficient level of familiarity and expertise.

The value of repeating the survey at regular intervals is that it enables us to build up a picture of the way in which the workforce has developed in the past and is likely to develop in the future. Another way of approaching this is to establish a longitudinal study. This can be done by taking a sample from the annual output of the training institutions and surveying them at regular intervals. Such surveys might be carried out each year for the first five years then every five years thereafter. This sort of longitudinal study can provide a valuable flow of information about career patterns as well as expectations on the part of individuals. It would provide valuable information to complement the basic workforce planning system.

Another approach is to explore the nature of the jobs rather than the characteristics of the individuals who occupy them. An analysis of jobs can provide valuable information for those concerned with the development of education and training courses.

This might be extended or broadened to include a survey of the general need for education and training. This would involve a consideration of the numbers involved and the subjects to be covered. Such information would provide a significant contribution to the process of developing the curriculum for library, archive and information education and training.

There are various ways in which the basic workforce planning system can be extended. It should, however, be emphasised that the collection, analysis and interpretation of workforce data can be a complex and demanding task, even when using the type of simple system set out in this manual. It is difficult to over-emphasise the benefits which can be gained from waiting until the basic technique has been mastered before developing something more sophisticated.

SECTION SIX: IN SUMMARY...

The objective of this section is, very briefly, to indicate the most useful ways in which the forecasting process can be extended.

Various possibilities exist for developing our understanding of the workforce. Much can be learned from the repetition at regular intervals of the basic information workforce survey. Valuable information can also be obtained from:

- *An analysis of the age structure of the workforce.*
- *The collection of separate data for males and females.*
- *Longitudinal studies.*
- *An analysis of the nature of jobs.*
- *A survey of the need for education and training.*

The basic technique should be mastered before developing more sophisticated surveys.

SECTION SEVEN: THE CASE STUDIES

The workforce planning system described in this manual was developed to provide information about the library, archive and information workforce in the Caribbean. An initial survey was carried out in 1981-82 and repeated later in 1983-84. Following the second use of the system it was decided to prepare this manual and so to make the technique more readily available.

A draft of this manual was prepared in 1985 and tested, in a modified form, in Botswana. The lessons learned during that test have been used to revise, extend and improve the manual.

The aim of this section is to describe briefly these two case studies, indicating how the technique has been used and highlighting some of the problems which might usefully be avoided in future.

The two Caribbean surveys have been the subject of Unesco reports(1), the survey carried out in Botswana has, at the time of writing, only just been completed and a report will be published in due course.

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1. Nick Moore, *Survey of library and information manpower needs in the Caribbean.* Paris, Unesco, 1982. PGI-82/WS/15.

   Gloria Greene and Reive Robb, *Second survey of library and information manpower needs in the Caribbean.* Paris, Unesco, 1985. PGI-85/WS/12.

7.1 The Caribbean surveys

At the 20th General Conference of Unesco, it was agreed to establish a Pilot Project for the "coordinated development of national information systems in the Caribbean region, comprising libraries, archives, and scientific and technological components". The goal of the Pilot Project was to help the individual Caribbean countries to build up their national information systems. The project formed part of the General Information Programme of Unesco.

In May 1980 a meeting was held in Jamaica to launch the Pilot Project. That meeting considered the scope for the development of library and information systems and identified some of the factors which would limit the scale of development. One of these factors was the general lack of sufficient trained people to develop the necessary services. As the background paper for the meeting noted "the human resources problem is all embracing. It covers the whole range of people involved in the information process from the producers of information, the users of information, including those responsible for information handling".

Solving the human resources problem was seen as a crucial first step in the development of the library and information services. Unesco had already devoted considerable energy towards the development of a regional training institution in the form of the Department of Library Studies at the University of the West Indies. It was apparent, however, that this had not solved the problem entirely and that there was still a major shortage of trained staff.

As a preliminary step in tackling this problem the first phase of the action plan for the Pilot Project included a proposal for a survey of the information workforce need. "The development of information systems and services in the Caribbean region requires a detailed study of the manpower needs at the professional, para-professional and technician level in the various disciplines that will be collaborating. The study will provide the base for national information planning as well as for determining the restructuring of the existing regional and national training institutions for meeting these needs".

The original intention was to produce forecasts of the medium- and long-term needs for librarians, information workers and archivists. After some consideration it was felt that this approach would be less than satisfactory. It was recognised that it would be impossible to produce reliable forecasts from only one survey and, furthermore, it was acknowledged that the value of the forecasts themselves would diminish quite rapidly as the information became out of date. To compound these difficulties there was the fact that national development varied widely throughout the region to the extent that it was impossible to produce overall forecasts. Instead what was proposed was a forecasting system which would act like a barometer producing a flow of information which would reflect the current

developments as they took place. On the basis of this continuing flow of information it should be possible to identify trends and to predict future needs. In this way, it was felt, the forecasting system should be capable of highlighting problem areas and indicating what action needed to be taken.

The development of a forecasting system like this was seen to have a number of advantages. Not only would it provide a continuous flow of information which could be used as a basis for decision making, it would also have an incremental effect as each successive forecast added to a knowledge about, and understanding of, the workforce. Such a forecasting system would involve all the countries in a cooperative effort and would thus further contribute to the aims of the Pilot Project.

In 1981 Unesco agreed to this approach and commissioned a pilot survey. This pilot survey had a number of objectives. First it had to develop a forecasting model which was suited to the conditions in the Region. In particular the model had to be capable of producing useful results from countries with widely differing levels of development. Having developed the initial forecasting model it would then be necessary to design a data collection system to gather the information required for the model. These data collection instruments would then be used in a pilot project to collect information which could be processed by the forecasting model. The end result of this would be a set of draft forecasts which would provide an, admittedly, rough indication of the current state of the workforce.

7.1.1 The forecasting model

With any forecast, the first step is usually to establish what is the current position. It is impossible to identify trends and to predict future developments without this basic information. The forecasting model, and the associated data collection systems which were developed for the Caribbean did little more than attempt to provide this basic information. The model itself is identical to the one set out in Section 2.3 of this manual.

It was necessary, in the context of the Caribbean region, to take account of the fact that there is only limited mobility between the 20 different countries of the Region. It was therefore necessary to prepare forecasts for each country in addition to those prepared for the Region as a whole. It was hoped that the survey would make it possible to produce data about each of the individual groups of staff in each of the countries while at the same time providing information about the overall position in each country and in the Region. Only in this way, it was felt, was it possible to develop an overall picture while making the necessary allowances to take account of the different states of development within the Region.

7.1.2 Data collection systems

Having established the outline of the overall forecasting model the next step was to develop the appropriate data collection systems. Again, a fundamental requirement of the survey was that it should make allowance for the variety which is such a significant feature of the Region. In terms of the data collection systems this meant that they had to be sufficiently flexible to operate successfully in countries which had highly developed library and information systems, like Cuba and Jamaica, as well as being capable of use in countries where the library and information sector is small and lacking in the resources necessary to undertake large-scale data collection exercises. To provide this level of flexibility a basic set of simple forms was prepared. The simplicity of the survey was to prove one of the main factors contributing to its success. Copies of the forms used appear overleaf.

In each country, Unesco had nominated a person to act as a local contact and to undertake the task of providing the necessary information. The survey forms were designed so that the local contact could, where the information was readily available, simply complete the forms and return them with the minimum of inconvenience. In countries where the information was not readily available, the forms themselves could be copied and used by the local contact to collect the information from a number of different sources. The contact was then required to collate the information and return it in the normal way.

A conscious effort was made to ensure that the forms requested only the very basic minimum of information. The form on page 73 requested, for each country, information about the number of administratively separate public libraries, academic libraries, school libraries, special libraries, national libraries and archive units. Each country was also asked to supply an estimate of the number of staff known to be studying for a qualification in librarianship or information work.

This request for general information was then followed by multiple copies of the form on page 74, one for each of the different types of library, archive and information unit. These forms asked for information on the number of staff employed and the number of posts vacant. The information was sub-divided into professional, para-professional and clerical categories. In addition to the number of staff employed, the forms asked for information about the number of staff who left their jobs in the preceding 12 months to work in other libraries or information units in either that particular country, another part of the Caribbean or outside the Caribbean. The forms went on to ask for an estimate of the number of staff who had left their jobs in the preceding 12 months and who no longer worked in a library, archive or information unit. Finally, the contacts were

GENERAL INFORMATION

COUNTRY .....

1. Please give the number of administratively separate:

- Public Libraries
- Academic Libraries
- School Libraries
- Special Libraries
- National Libraries
- Archive Units

2. Please estimate the number of staff known to be studying for a qualification in librarianship or information work at 31 December 1981.

	In the Caribbean	Outside the Caribbean
• At postgraduate level		
• At undergraduate level		
• Non-degree courses		

Please give your name .....

and address .....

.....

.....

.....

When preparing manpower forecasts it is very helpful to have as much background information as possible, so if you have any annual reports or recent surveys which you think might be useful, and you could spare a copy, please could you send them to me. These can be sent by surface mail to keep down your costs.

Please return the completed forms as soon as possible, and no later than 31 January 1982. I would be grateful if you could send these by air mail, addressed to:

Nick Moore
328 Ben Jonson House
The Barbican
London EC2Y 8DL
The United Kingdom

COUNTRY .....

	Professional		Para-professional		Clerical	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
1. Please give the number of staff employed at 30 June 1981						
2. Please give the number of posts which were vacant at 30 June 1981						
3. We are interested in the number of staff who leave their jobs each year. Can you estimate the number of staff who have left their jobs in the last 12 months to work in other libraries or information units:						
• In this country						
• In another part of the Caribbean						
• Outside the Caribbean						
4. Can you also estimate the number of staff who have left their jobs in the last 12 months and who no longer work in a library or information unit.						
5. How many additional posts do you think are likely to be created:						
• In the next 12 months						
• In the next 5 years						

asked to supply information about the number of posts which were likely to be created in the next 12 months and during the next five years. These forms provided all the information necessary to build up a basic picture of the workforce and to identify the more significant trends of wastage and entry to the workforce.

To complement the information about the existing supply of librarians, archivists and information workers, a further set of survey forms was prepared for completion by the three training institutions in the Region. These asked for information about the courses which were offered and the number of students on the different years of the various programmes.

The response to the survey was lower than initially hoped - 11 out of the 20 countries responded. In the case of one other country, the local contact was under such severe pressure, ironically caused by a shortage of staff, that it proved impossible to submit a fully completed return. It seems that the main reason for the low response was the fact the survey was being carried out by an unknown person from outside the Region. When the survey was repeated two years later by the University of the West Indies, the response rate was much higher.

The information collected was processed according to the requirements of the forecasting model. The result was a series of tables which indicated the current position of the workforce, highlighting features such as the extent of vacant posts. It was also possible to make rough estimates of the number of additional staff which would be needed during the following 12 months and the following five years. These estimates took account of the numbers required to fill posts then vacant, the number required to replace staff who would leave during the periods and the number required to fill posts created through the likely expansion of the library and information service.

The overall picture was one in which there were very severe shortages of staff. The training institutions were not producing nearly enough people to meet the demands placed upon the services and it was difficult to escape the conclusion that the staff shortages would seriously hinder the development of an effective library and information service.

7.1.3 The continuing forecasting system

The production of forecasts was, however, only one of the objectives of the pilot survey. The intention was also to establish the viability of both the forecasting model and the data collection system.

On the basis of the survey it did seem that the forecasting and data collection systems were, in fact, capable of producing worthwhile results. The survey also indicated areas where improvements could be made. For example, the survey forms asked for information about full-time and part-time staff, in the event it was not possible to incorporate such a division into the analysis and no use was made of the separate data.

The report on the pilot survey recommended that Unesco should make resources available to enable a continuing forecasting system to be established in the Region. The forecasting system should be based on the general approach adopted for the pilot survey and should be repeated every two years to provide the necessary time series information. It was suggested that it would be possible to increase gradually the sophistication of the exercise, building in various features which would take account of the variations within the Region.

The report emphasised that "for the work to have full effect, it needs to take place within the Caribbean. Only in this way can the process become fully integrated with the planning process and with the operation of the individual elements which together make up the library, archive and information system". In line with this recommendation, Unesco commissioned the Institute of Social and Economic Research at the University of the West Indies to undertake a repeat of the initial survey. The pilot survey collected information about the situation in December 1981. The repeat survey considered the position in December 1983.

The second survey was carried out by two librarians - Gloria Greene and Reive Robb who were attached to the Institute of Social and Economic Research. The survey was, thus, carried out by librarians with no previous experience of workforce planning. They were, however, able to draw on the statistical and workforce planning expertise of the Institute.

The overall format for the survey was the same as in the pilot. The forecasting model used was identical and the survey forms were modified only slightly. The two main modifications were that school libraries were divided into two categories - elementary schools and high schools - and the professional staff category was sub-divided into three to take account of qualifications, experience and expertise outside the immediate field of library, archive or information work. In the event, the division of professional staff into these categories was ignored for the purposes of the analysis.

The main development was the introduction of a fairly extensive supplementary questionnaire requesting qualitative information about various aspects of the workforce. This additional information proved to be very valuable when interpreting the results and placing them into the overall context of library, archive and information developments within the region.

Other improvements were made to the definitions used for the survey. In particular improvements were made to the definitions used in the survey of training institutions. These had presented significant problems during the pilot survey. The revised definitions have been incorporated into this manual.

The survey was completed by July 1984 and the report summarising the findings and providing full statistical tables was published by Unesco in 1985. A notable feature of the report was that the findings of the workforce survey were related in a much more thorough way to general developments within the Region.

The two surveys carried out in the Caribbean have, it is hoped, provided librarians, archivists and information workers in that Region with fairly detailed information about the position and likely prospects of the workforce. Furthermore, the two surveys have served to demonstrate the basic technique and have provided the experience necessary to refine and improve it. The lessons learned were incorporated into a draft manual which was completed at the end of December 1984 and which formed the basis for the further test in Botswana.

7.2 The Botswana survey

Having developed the manual in the context of a survey in the Caribbean Region, involving 20 countries, it was decided to test the draft in a single country - Botswana. The need for a workforce survey had already been identified in this country and there was a general willingness to participate in a test of the manual.

Agreement in principle to the test was forthcoming from all the parties concerned during 1984 when the draft manual was being prepared. Early in 1985 preparations were made to carry out the test. In March of that year, however, an event took place which changed the direction of the test.

In March 1985 the German foundation Deutsche Stiftung für Internationale Entwicklung (DSE) organised a meeting in Zimbabwe for information experts from Central and Southern Africa to consider the library and information workforce and in particular, to explore the training needs.

The meeting provided a valuable opportunity to obtain the comments of a number of experts from a range of developing countries. Arrangements were, therefore, made for the participants to consider the draft manual.

Comments on the manual were generally favourable and it was decided to use the draft survey forms as a basis for a questionnaire to collect information about personnel resources and education and training needs for the library, archive and information sector. The survey forms were modified to accommodate additional questions about training needs and also to ask for more detail about various aspects of the workforce. The modified questionnaire appears overleaf.

All the countries participating in the meeting were asked to carry out the surveys during 1985 so that the results for the Region as a whole could be presented in 1986.

In terms of the projected test of the draft manual in Botswana, this presented a slight problem. If both surveys had gone ahead, library, archive and information services in that country would have been asked to complete two similar questionnaires at about the same time. Eventually it was decided that the DSE survey should be given priority.

The main reason for this was that Botswana had a regional commitment to participate in the DSE survey. It was, however, also recognised that others would be inclined to modify the survey forms in the manual to meet their particular requirements. The DSE survey, therefore, provided an opportunity to assess the extent to which it was possible to move away from the original conception of the survey and to introduce further sophistications.

The survey was carried out by the Department of Library Studies at the University of Botswana between May and September 1985. The survey forms were analysed and the survey was evaluated in November 1985 during a visit to Botswana by Nick Moore.

The main conclusion of the evaluation was that the attempt to increase the level of detail called for in the survey seriously complicated the analysis of the data and ultimately detracted from the value of the exercise.

If attention is focused in particular on the questions which relate to the quantitative aspects of the workforce (questions 1, 2, 5, 6, 7, 8 and 9) it becomes apparent that the additional detail called for makes analysis more complex as well as increasing the burden on the suppliers of the information.

For example, in question 2, professional staff are sub-divided according to nine different qualifications and para-professional staff are sub-divided according to two different qualifications. Such sub-division would increase significantly the task of the respondent, particularly in large systems.

DSE SURVEY QUESTIONNAIRE

Manpower Survey Questionnaire

(second draft - final version)

1) Please tick in the box which most closely describes your service:

- Public Library ☐
- National Library ☐
- University Library ☐
- College Library ☐
- School Library ☐
- Archives Service ☐
- Documentation Centre ☐
- Special Library: Government ☐
  - Industry ☐
  - Research ☐
  - Museum ☐

2) Please give the total number of staff (in the appropriate box) presently employed in your organization (give only highest qualification):

- A. Professional
  - ALA ☐
  - FLA ☐
  - B.A./B.Sc. (Lib.Stud.) ☐
  - B.Sc. (Information) ☐
  - Post graduate Diploma ☐
  - M.Sc. (inf.science) ☐
  - M.L.S. ☐
  - M.Phil. ☐
  - Ph.D. ☐
- B. Paraprofessional:
  - Diploma ☐
  - Certificate ☐
- C. Clerical: ☐
- D. Non-Library B.A./B.Sc. ☐
- E. On-the-job training ☐
- F. Others ☐

  Please specify: _____

.../2

DSE SURVEY QUESTIONNAIRE

3) Do you have a staff development programme?

Yes ☐ No ☐

(If your answer is yes, go to question 4; if no, go to question 5)

4) State the number of persons who are currently on training and/or need to be sent for training, in each of the following categories:

		on training	need for training
A. Professional:	ALA	☐	☐
	FLA	☐	☐
	B.A./B.Sc. (Lib.Stud)	☐	☐
	B.Sc. (Information)	☐	☐
	Post graduate diploma	☐	☐
	M.Sc. (Inf. Science)	☐	☐
	M.L.S.	☐	☐
	M.Phil.	☐	☐
	Ph.D.	☐	☐
B. Paraprofess.:	Diploma	☐	☐
	Certificate	☐	☐
C. Clerical:		☐	☐
D. Non-Library B.A./B.Sc.:		☐	☐
E. On the job-training:		☐	☐
F. Others:			

5) Please give the number of staff who have left the service in the last 12 months, in each category:

Professional ☐
Paraprofessional ☐
Clerical ☐
Non-Library B.A./B.Sc. ☐
Others ☐ Please specify: _____

6) Indicate for which of the following reasons your staff left your service:

	death	resignetaion	dismissal	training	changed job	other
Professional						
Paraprofessional						
Clerical						
Others						

7) Please give the number of staff who have joined the service in the last 12 months:

Professional ☐
Paraprofessional ☐
Clerical ☐
Non-Library B.A./B.Sc. ☐
Others ☐ Please specify: _____

DSE SURVEY QUESTIONNAIRE

8) Please give the number of posts in your service which are presently vacant and/or frozen:

	vacant	frozen
Professional	☐	☐
Paraprofessional	☐	☐
Clerical	☐	☐
Others	☐	☐

Please specify "others": _____

9) Please give the number of staff needed in th next five years:

	next year	next 2 years	next 3 years	next 4 years	next 5 years
Professional					
Paraprofessional					
Clerical					
Others					

Please specify "others": _____

10) What types of continuing education do you like to have offered? Please state by ticking the appropriate box!

	Workshop	Seminar	Vacation Courses	Short courses	Others
Professional					
Paraprofessional					
Clerical					

Please specify "others": _____

Now, please specify under each type of continuing education listed below the subject to be presented, such as:

A = Management
B = Computer Studies
C = Public Relations
D = Records Management
E = Documentation
F = User Studies
G = User Education
H = Others (Please specify: _____

Please insert only one letter per box!

	Workshop	Seminar	Vacation Courses	Short courses	Others	Please specify "others"
Professional						
Paraprofessional						
Clerical						

11) Explain briefly some of your staffing problems!

(use reverse side of paper)

Similarly, question 6 asks respondents to specify the reasons why staff left their jobs. This too would increase the burden on the respondents as the information is unlikely to be readily available. It is also difficult to analyse. The reasons for leaving are not mutually exclusive. Furthermore, the questionnaire fails to consider the more important question which is where the staff went to. It is, therefore, impossible to calculate the absolute loss, the internal departures or the wastage to the latent supply.

Further, question 9 asks for information on the number of staff needed in the next five years. As we saw on page 16, a need is very different from a demand. For the purposes of workforce planning a statement of need without any corresponding assessment of the extent to which the need will be met is of very little value.

It must be remembered, however, that the primary purpose of the survey was to collect information about training needs in the library, archive and information sector. This in itself, however, provides a valuable lesson - the collection, analysis and interpretation of information about the workforce is a complex task and it cannot easily be carried out as a by-product of another survey.

When applying the technique set out in this manual there will almost always be a need to modify and develop certain aspects to suit the particular requirements of the country. Definitions especially will need to be amended to suit local usage. It is, however, worth remembering that the survey forms and accompanying documents in this manual have been developed and tested over a number of years and, at the very least, any modifications should be pilot tested before being put into operation.

This section cannot be concluded without acknowledging the contribution made by a large number of people who have administered the technique, completed the survey forms and commented on earlier drafts. It is only through those efforts that it has been possible to develop, test, refine and now present the basic technique in the form of a manual.

I hope that anyone who uses the manual in the future will not hesitate to point out its deficiencies and to indicate ways in which it can be improved.

SECTION EIGHT: GLOSSARY

Absolute loss

Absolute loss represents the permanent reduction in the size of the **active supply** which comes about as people die or pass the age of retirement and leave their jobs.

Active supply

The active supply is composed of all those people who are actually working in the library, archive and information workforce. It also includes all the people who, although they do not actually have a job as a librarian, archivist or information worker, are actively attempting to obtain one. They may be unemployed or working in other sectors of the economy but if a suitable job were advertised they would apply for it. (See also **latent supply**)

Actively unemployed

People are actively unemployed when they do not have a job but are seeking to obtain one in the library, archive or information sector.

Career pattern

A career pattern is a description of the working life of an individual or a group within the workforce. It describes in a sequential way the periods of training, employment and unemployment over a person's life. (See also **participation rates**)

Deleted posts

Deleted posts are posts which have been removed from the establishment.

Demand

The demand is quite simply the number of posts which exist in the library, archive and information sector at any one time.

Employment market

Employment market is a general term for any particular sector of the economy. Thus we would speak of the employment market for librarians, archivists and information workers. (See also **labour market**)

Establishment

The establishment of an organisation is simply the number of posts which exist within that organisation. An establishment chart would show the grades of the different posts and the organisational relationships between them. We say that posts are added to or deleted from the establishment.

Forecasting matrix

A device which enables workforce planners to consider the various dimensions of the workforce (a forecasting matrix is illustrated on page 19).

Frozen vacancies

Frozen vacancies occur when a post is deliberately held vacant, usually as an economy measure. As frozen vacancies do not represent job opportunities they are normally excluded from any calculation of demand.

Full-time equivalent

The full-time equivalent number of staff is obtained by expressing each part-time post as a fraction of a full-time posts and then adding them all together. For the purposes of workforce planning, this seldom serves any useful purpose and can, indeed, lead to unnecessary confusion.

Internal arrivals

The internal arrivals are the staff who join a service having come from another job in the library, archive and information sector.

Internal departures

Internal departures are the staff who leave their job in order to move to another one in the library, archive or information sector.

Labour force

Within the economy as a whole the labour force is all those people who, at any one time, are seeking employment. Within any particular sector the labour force consists of all those who are occupying jobs or who are **actively unemployed** within the sector.

Labour market

The market in which, in theory at least, salaries and wages are determined through the interaction of the demand for and supply of labour (see also **employment market**).

Latent supply

The latent supply is composed of trained or experienced people who are not participating in the workforce. They may be unemployed, they may have decided to work in a different occupation or they may have moved to another country. The important thing is that they may at some time in the future decide to **re-enter** the **active supply** by seeking employment which will make use of their training or experience. (See also **active supply**)

Model

A model is a theoretical representation of an aspect of the real world which enables us to predict what might happen under certain circumstances. A model of the workforce is illustrated on page 17.

Need

The need for staff is the number of staff which are required to provide an optimum service under ideal conditions. The need, in nearly all cases exceeds **demand**. A **demand** only arises, however, when a **post** is created in the **establishment** and finance is made available to allow for the employment of a person.

Net growth rate

The net growth is the number of new posts that are created, minus the number of **deleted posts.** The net growth rate is simply the net growth expressed as a percentage of the total number of posts at the beginning of the period.

Net wastage

The net wastage is simply the **wastage** minus the **re-entry.** (See also **re-entry**)

Occupational mobility

Occupational mobility is the propensity for people to move between different jobs as distinct from geographical mobility which is their propensity to move between different parts of the country.

Participation rates

The participation rate is simply the proportion of the total supply which is employed or actively seeking work at any particular time. Generally speaking females have a lower participation rate than males as a significant proportion move from the **active** to the **latent supply** in order to raise a family. (See also **career pattern**)

Post

A post is a job. When a person is employed they are said to be occupying a post on an **establishment.**

Productivity

Productivity is a measure of the output which can be obtained from the workforce, thus we can talk about productivity per head or productivity per shift. An increase in productivity means that the same amount of work can be accomplished with fewer staff.

Qualitative

The qualitative aspects of the workforce are, generally speaking, the non-numerical aspects. Qualitative information about the workforce covers aspects such as the age structure, the range and levels of skills and attributes, the degree of satisfaction or frustration experienced by members of the workforce as well as information about the nature of duties the individuals may be called upon to perform.

Quantitative

In contrast to **qualitative** information, quantitative information is the numerical and statistical data which describes the workforce.

Re-entry

Re-entry is the movement of individuals from the **latent supply** to the **active supply.** It arises when people return to work within the library, archive and information sector of a country after spending a period elsewhere. For clerical staff the **latent supply** is very large as it includes all those who potentially could obtain clerical work in, libraries, archives or information services. For clerical workers, therefore, it is possible for re-entry to arise even though they have not previously been employed in the sector. (See also **net wastage**)

Recruitment and training need

The recruitment and training need is the future demand minus the future supply. If the recruitment and training need is zero it means that, other things being equal, demand and supply will be in perfect balance. If the recruitment and training need is positive it means that demand will exceed supply and additional staff will need to be recruited and trained. Equally, if the recruitment and training need is negative supply exceeds demand and the level of recruitment and training will need to be reduced.

Response rate

The response rate is the number of questionnaires that have been returned expressed as a percentage of the number distributed.

Retirement

Retirement occurs when individuals reach an agreed age and leave the workforce permanently.

Supply

The supply is made up of people. The total supply is all those people who have sufficient training or experience to enable them to work in the library, archive or information sector. The total supply can be divided into two parts: the **active supply** and the **latent supply.**

Training input

The training input to the workforce is the flow of newly trained workers produced by the **training institutions**. Training institutions are the organisations which offer education and training courses which equip people to occupy professional or para-professional posts in the library, archive and information sector.

Turnover rate

The turnover rate is the number of staff who leave during the year expressed as a percentage of the number employed at the beginning of the year. The turnover rate gives some indication of the degree of **occupational mobility** within the workforce.

Under-employment

Under-employment arises when trained or experienced staff occupy posts intended for people with a lower level of training or experience than they in fact possess.

Vacancy rate

The vacancy rate is the number of vacancies expressed as a percentage of the total number of posts. The vacancy rate shows, in very broad terms the balance between supply and demand.

Wastage

Wastage is the flow from the **active supply** to the **latent supply**. (See also **net wastage** and **re-entry**)

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Guidelines for conducting information manpower surveys

Volume II
Questionnaires and accompanying documents

General Information Programme and UNISIST

United Nations Educational, Scientific and Cultural Organization

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GUIDELINES FOR CONDUCTING INFORMATION MANPOWER SURVEYS

prepared by

Nick Moore

VOLUME II. QUESTIONNAIRES AND ACCOMPANYING DOCUMENTS

General Information Programme and UNISIST

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SURVEY OF EMPLOYING ORGANISATIONS

Covering letter
Notes and definitions
Questionnaire
Supplementary questionnaire
Draft first reminder letter
Draft second reminder letter

SURVEY OF EMPLOYING ORGANISATIONS: COVERING LETTER

Dear Colleague,

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

Library, information and archive services are critically dependent on their workforce. Adequate numbers of appropriately trained staff are an essential factor in the development of a good service. We are conducting a study of the workforce to identify particular needs and to help us plan the future development of the workforce so that supply corresponds with demand.

To do this, we need information about the current employment situation and we would ask you to cooperate with us by supplying information about your particular service.

> *Insert a paragraph outlining the official support given to the study, if any.*

We would like you to supply some statistical information about your workforce. We are also interested in your views on the current position and likely future development of your service.

You will find enclosed with this letter two copies of the questionnaire, one of which should be returned to us by *(insert date)* the other you can keep for your records. We have tried to make the questionnaire as straightforward as possible and we hope that it will not take too much time to complete. You will also find enclosed a set of explanatory notes and definitions. If, however, you have any queries about the questionnaire please do not hesitate to contact me or another member of the survey team.

Your replies will be confidential and the results will be presented in aggregated form so as to ensure that individual organisations cannot be identified.

Finally we would find it helpful to have as much background information as possible. So if you have any annual reports or recent surveys which you think might be useful, and you could spare a copy, please could you send them to us.

Thank you again for your cooperation. I hope that, together we can produce something of lasting value.

SURVEY OF EMPLOYING ORGANISATIONS: NOTES AND DEFINITIONS

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE STUDY

Explanatory notes and definitions

This survey is being carried out as part of an overall study of the workforce. We are attempting to obtain statistical information about:

- Current levels of employment in your organisation.
- Changes that have taken place in the last year.
- Changes that are likely to take place in the next five years.

We realise that it will not be possible to provide accurate figures for all the questions asked. Where accurate statistics are not available, please give an estimate. Where estimates are given please indicate by placing an asterisk against the figure. We would much rather have an estimate that was slightly wrong than have no figures at all. Also, when you are sure that the answer is zero, please put a zero in the appropriate box. Do not leave boxes blank.

You will see from the questionnaire that some questions ask for information about the situation on a particular day - *(insert the actual date here)*. Other questions ask for information about events that have happened in the previous 12 months this is the period from *(insert date)* to *(insert date)*.

We would be grateful if you could return the completed questionnaire to us at the following address *(insert address here)*. The questionnaires should be returned by *(insert date)*. A stamped, addressed envelope is enclosed.

Definitions

An **administratively separate unit** is any independent library, information unit or group of libraries operated under a single director or single administration. For example, a public library under a single director will be an administratively separate unit even though it may have more than one branch library. In some cases a number of administratively separate units work together in a network. In such cases count them as separate units.

Public libraries are libraries which serve the whole population of a community or region free of charge or for a nominal fee.

National libraries are responsible for acquiring and conserving copies of all significant publications published in the country and functioning as a 'deposit' library, either by law or under other arrangements. They will normally perform some of the following functions: produce a national bibliography; act as a national bibliographical information centre; compile union catalogues; publish the retrospective national bibliography.

University libraries are those libraries primarily serving students and teachers in universities. Libraries attached to university institutes and departments but which are not under the direction or administered by the main or central university library should also be included as administratively separate units in this category.

College libraries are those primarily serving students and teachers in tertiary educational institutions other than universities.

School libraries are those libraries attached to all types of schools below the level of education at the tertiary level and serving primarily the pupils and teachers of such schools. Separate collections for the use of different classes in the same school should be regarded as a single library which should be counted as an administrative unit.

Special libraries and information units are those maintained by an association, government service, parliament, research institution (excluding university institutes), learned society, professional association, museum, business firm, industrial enterprise or commercial body. The greater part of the collection in these libraries or information units will be in a specific field or subject.

Archives include both public and private archival agencies or repositories. Record centres should also be included here.

Professional staff are staff who have a qualification in librarianship or information work. The qualification will normally have been obtained as a result of education at postgraduate or undergraduate level. Professional staff will be responsible for administrative work such as budgeting, staff, planning, organisation and evaluation; or for professional activities such as acquisition, cataloguing, classification, indexing, reference work and so on. Most professional staff will be eligible for membership of a professional association. Sometimes staff who do not have a specific qualification in librarianship or information work will occupy posts which would normally be filled by professional librarians or information workers. These will include persons whose training has been by means of an extended period of work in a library and professional personnel who apply their knowledge of the theories, principles and techniques of some subject speciality other than librarianship, such as languages, law and computer technology, to work within a library. Audio-visual and media specialists are also included as professional staff.
(It may be useful to provide a list of the actual qualifications)

Para-professional staff are staff who have received a formal training in librarianship or information work, but who have not reached the level expected of a professional. They are library technicians and technical assistants who apply library related skills to one or more of the functional areas of library operations for the purpose of supporting and assisting the professional staff. Again, some posts intended for para-professional staff may be filled by staff who have not received a formal training but whose work experience equips them with the skills necessary for the job. Count these staff as para-professionals.
(It may be useful to provide a list of the actual qualifications)

Clerical staff are staff who perform work of a general office nature such as typing, filing, and operating business machines or whose jobs may entail routine library-related tasks such as shelving library books and materials, filing and maintaining circulation records, and typing and filing cards, forms and reports. Student assistants in school libraries, drivers, janitorial, portering and other manual staff should be excluded.

Full-time and part-time. Count each post whether it is full-time or part-time. Do not attempt to express part-time posts as a full-time equivalent.

Temporary staff. Count all temporary staff who are employed on the given date.

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

The information collected in this survey will be used to identify workforce needs and to plan the future development of the workforce. All information will be confidential.

Explanatory notes and definitions accompany this questionnaire. If you have any further questions, please do not hesitate to contact:

Insert name, address and telephone number

Please return the completed questionnaire not later than *(insert date)* to *(insert address)*.

Name of library, archive or information unit.....

.....

1. **Type of service**

Public library	☐	School library	☐
National library	☐	Special library	☐
University library	☐	Archives service	☐
College library	☐	Other	☐

please specify.....

2. **Staff employed**

Please give the number of staff employed on *(insert date)*.
(Allocate numbers according to the level of posts held rather than the qualifications possessed. For example a professional librarian working in a clerical post should be shown as a clerical.)

Professional	Para-Professional	Clerical
☐	☐	☐

3. **Training**

Please give the number of staff who are employed but who are currently attending training institutions full-time.
(Allocate numbers according to the level of post held, as in question 2.)

	Professional	Para-Professional	Clerical
3.1 In this country	☐	☐	☐
3.2 In other countries	☐	☐	☐

4. Departures	Professional	Para-Professional	Clerical
Please give the numbers of staff who have left their jobs in the last 12 months. (Do not count internal promotions or job changes within the organisation. Allocate numbers according to the level of posts held.)			
4.1 Absolute loss As a result of death or retirement.			
4.2 Internal departures Movement to another library, archive or information service within the country.			
4.3 Wastage Movement to jobs outside the library, archive or information sectors, or outside the country.			
4.4 Total numbers leaving			

5. Arrivals	Professional	Para-Professional	Clerical
Please give the numbers of staff who joined the service in the last 12 months. (Do not count internal promotions or job changes within the organisation. Allocate numbers according to the level of post held.)			
5.1 Training input The number joining from training institutions. (Do not count existing employees who have been attending training.)			
5.2 Internal arrivals Movement from another library, archive or information service in the country.			
5.3 Re-entry Arrivals from jobs outside the library, archive or information sector, or from outside the country.			
5.4 Total numbers joining			

		Professional	Para-Professional	Clerical
6.	**Vacancies** **Please give the number of posts which were vacant on** *(insert date).* (Do not count frozen vacancies that is, posts which are deliberately being held vacant.)			
7.	**New posts** **Please give the numbers of new posts which have been added to the establishment and any vacancies which have been "unfrozen" in the last 12 months.**			
8.	**Future growth** **Please estimate the numbers of new posts which are likely to be added to the establishment, and the number of vacancies which are likely to be "unfrozen":**			
8.1	**In the next 12 months**			
8.2	**In the next 5 years** From *(insert year)* to *(insert year).*			

9. Deleted posts	Professional	Para-Professional	Clerical
Please give the number of posts which have been deleted from the establishment and any vacancies which have been "frozen" in the last 12 months.			

10. Future reductions Please estimate the number of posts which are likely to be deleted from the establishment, and the number of vacancies which are likely to be "frozen":			
10.1 In the next 12 months			
10.2 In the next 5 years From *(insert date)* to *(insert date)*.			

THANK YOU VERY MUCH FOR YOUR COOPERATION

SUPPLEMENTARY QUESTIONNAIRE

With these supplementary questions we are hoping to gather information about the views and opinions of those who are in charge of library, information and archives services. The information will be used to interpret the statistical data. As with the statistics, all information will be treated in confidence. No opinions will be attributed to individuals.

1. Have you experienced any major staffing difficulties during the last five years, such as a shortage of particular skills, or difficulties with recruitment at specific levels?

2. How have you attempted to overcome these staffing difficulties?

3. What are the main changes which you expect to see in your service in the next five years?

4. Do you think these changes will lead to any staffing difficulties?

5. What topics would you like to see included, or given greater emphasis in future training and re-training programmes?

6. Can you suggest any other changes which would improve training and re-training programmes?

Thank you very much for your help. The information will be used to identify current needs and to forecast future levels of supply and demand. The results will be processed in the coming months, and we hope to have a report ready for distribution by *(insert date)*.

Finally, could you give us the name of the person who could, if necessary, clarify any matters covered by this questionnaire or who could provide further information.

Name .....

Address .....

.....

.....

.....

Telephone.....Extension.....

Please return the completed questionnaire not later than *(insert date)* to *(insert address)*.

THANK YOU FOR YOUR COOPERATION

DRAFT FIRST REMINDER LETTER

Dear Colleague,

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

On *(insert the date)* we sent you some papers and a questionnaire for this workforce survey which we are carrying out. These should have been returned to us by *(insert the date)* but we do not seem to have received anything from your organisation.

In case the original papers were not delivered to you I am enclosing a second set. I would be most grateful if you could complete the questionnaire and return it to us by *(insert the date)*.

If you are having difficulty completing the questionnaire please contact us. We would do all we can to help.

DRAFT SECOND REMINDER LETTER

Dear Colleague,

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

On *(insert the date)* we sent you a questionnaire for this workforce survey which we are carrying out. This was followed by a reminder letter and a second set of papers on *(insert the date)*. We still have not received a reply from your organisation.

It is very important that the information we collect is as complete as possible. We also need to begin analysing the data before it becomes out of date. As your organisation is one of the very few that has not replied we would be grateful if you could either return the questionnaire to us or contact us if you are having difficulties.

It may be that your organisation no longer employs any librarians, information workers or archivists. If this is, in fact the case, we would like to know so that we can delete your organisation from our mailing list.

TRAINING INSTITUTIONS SURVEY

Draft covering letter
Questionnaire
Supplementary questionnaire

TRAINING INSTITUTIONS SURVEY DRAFT COVERING LETTER

Dear Colleague,

LIBRARY, INFORMATION AND WORKFORCE SURVEY

Library, information and archive services are critically dependent on their workforce. Adequate numbers of appropriately trained staff are an essential factor in the development of a good service. We are conducting a study of the workforce to identify particular needs and to help us plan the future development of the workforce so that supply corresponds with demand.

Insert paragraph stating official support, if any.

We would ask you to cooperate by supplying some statistical information about output from your training institution. We would also be grateful if you could give your views on the current position and likely future developments. We have tried to make the questionnaire as straightforward as possible. If, however, you have any queries please do not hesitate to contact *(insert name, address and telephone number).*

A stamped addressed envelope is enclosed for the return of the questionnaire. We would be grateful if the completed questionnaires could be returned to us by *(insert date here).*

Thank you again for your cooperation. I hope that, together, we can produce something of lasting value.

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

The information collected in this survey will be used to identify workforce needs and to plan the future development of the workforce.

The questionnaire should be self-explanatory. If, however, you have any questions, please do not hesitate to contact:

Insert name, address and telephone number

Please return the completed questionnaire not later than *(insert date)* to *(insert address)*.

We would like to thank you in advance for your cooperation.

Name of training institution.....

DEFINITIONS

A course is a body of knowledge described by a syllabus to be imparted to students by various teaching methods, usually followed by an examination. A course may be compulsory or optional or an elective.

A programme is a sequence of courses the taking of which is governed by certain regulations. Satisfactory completion of a programme makes a candidate eligible for the award of a degree, a diploma or a certificate.

(Note. It may be necessary to amend these definitions or terms to conform with usage in different countries)

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

Name of training institution.....

Please complete a separate sheet for each individual programme listed on the other form. Output is defined as the number of students who successfully completed the programme and who were awarded the qualification. Please show the number who were awarded the qualification each of the past five years. For the next five years, please give an estimate of the likely output.

Title of the programme.....

Actual output in:

Year 1	☐	Year 6	☐
Year 2	☐	Year 7	☐
Year 3	☐	Year 8	☐
Year 4	☐	Year 9	☐
Year 5	☐	Year 10	☐

(It will be necessary to insert the actual year in place of Year 1, Year 2, etc. Either the calender year, or academic year could be used according to local practice. Remember that Years 1-5 represent the previous five years and that Years 6-10 represent the next 5 years).

LIBRARY, INFORMATION AND ARCHIVES WORKFORCE SURVEY

Name of training institution.....

Please give the following information for each of the library, information or archives programmes offered by the institution. Please include any new programmes which will be introduced in the next five years. Please also include any programmes which have ceased to operate in the last five years.

Programme Title	Duration in years	Qualification Awarded	(Where applicable) Date	
			Begun	Ceased

SUPPLEMENTARY QUESTIONNAIRE

With these supplementary questions we are hoping to gather information about the views and opinions of those who are in charge of developing education and training programmes. The information will be used to interpret the statistical data.

1. Have you experienced any major staffing difficulties during the last five years, such as difficulties with recruitment or shortage of particular skills?

2. How have you attempted to overcome these difficulties?

3. What have been the main changes in the curriculum during the last five years?

4. What do you expect the main changes in the curriculum will be in the next five years?

5. What do you think will be the main areas of work undertaken by your graduates in the next five years?

6. What are the main factors which would constrain the expansion of the output from your programme?

Thank you very much for your help. The information will be used to identify current needs and to forecast future levels of supply and demand. The results will be processed in the coming months, and we hope to have a report ready for distribution by *(insert date)*.

Finally, could you give us the name of a person who could, if necessary, clarify any matters covered by this questionnaire or who could provide further information.

Name .....

Address .....

.....

.....

.....

Telephone .....Extension.....

Please return the completed questionnaire not later than *(insert date)* to *(insert address)*.

THANK YOU FOR YOUR COOPERATION

SUMMARY SHEETS

Summary Sheet One: Staff employed, vacant posts, total posts
Summary Sheet Two: Numbers leaving jobs
Summary Sheet Three: Numbers joining service
Summary Sheet Four: Staff receiving training
Summary Sheet Five: Net growth in posts
Summary Sheet Six: Rates of wastage, re-entry, etc.
Summary Sheet Seven: Supply and demand - the short term
Summary Sheet Eight: Supply and demand - the medium term
Summary Sheet Nine: Output from training institutions

The source of the data which is to be inserted in these sheets is shown against the appropriate heading. In Summary Sheet One, for example, **"(Q2)"** *is shown against the heading* **"1.1 Staff employed".** *This means that the source of the data is question 2 on the questionnaire. Similarly on Summary Sheet Six* **"(SS1)"** *is shown against the heading* **"6.1 Supply now (Staff employed)".** *This means that the source of data is Summary Sheet One.*

SUMMARY SHEET ONE: STAFF EMPLOYED, VACANT POSTS, TOTAL POSTS

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
1.1 STAFF EMPLOYED(Q2) Professional								
Para-Prof								
Clerical								
1.2 VACANT POSTS(Q6) Professional								
Para-Prof								
Clerical								
1.3 TOTAL POSTS(Q2+Q6) Professional								
Para-Prof								
Clerical								
1.4 VACANCY RATE (SS 1.2 & 1.3) Professional								
Para-Prof								
Clerical								

SUMMARY SHEET TWO: NUMBERS LEAVING JOBS

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
2.1 ABSOLUTE LOSS(Q4.1) Professional								
Para-Prof								
Clerical								
2.2 INTERNAL DEPARTURES(Q4.2) Professional								
Para-Prof								
Clerical								
2.3 WASTAGE(Q4.3) Professional								
Para-Prof								
Clerical								
2.4 TOTAL NUMBERS LEAVING(Q4.4) Professional								
Para-Prof								
Clerical								
2.5 TURNOVER RATE (SS1.1 & Q4.4) Professional								
Para-Prof								
Clerical								

SUMMARY SHEET THREE: NUMBERS JOINING SERVICE

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
3.1 TRAINING INPUT(Q5.1) Professional								
Para-Prof								
Clerical								
3.2 INTERNAL ARRIVALS(Q5.2) Professional								
Para-Prof								
Clerical								
3.3 RE-ENTRY(Q5.3) Professional								
Para-Prof								
Clerical								
3.4 TOTAL NUMBER JOINING(Q5.4) Professional								
Para-Prof								
Clerical								

SUMMARY SHEET FOUR: STAFF RECEIVING TRAINING

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
4.1 THIS COUNTRY(Q3.1) Professional								
Para-Prof								
Clerical								
4.2 OTHER COUNTRIES(Q3.2) Professional								
Para-Prof								
Clerical								

SUMMARY SHEET FIVE: NET GROWTH IN POSTS

(To obtain the net growth figure subtract the answers to questions 9 and 10 from the answer to questions 7 and 8)

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
5.1 LAST 12 MONTHS(Q7-Q9) Professional								
Para-Prof								
Clerical								
5.2 NEXT 12 MONTHS(Q8.1-Q10.1) Professional								
Para-Prof								
Clerical								
5.3 NEXT FIVE YEARS(Q8.2-Q10.2) Professional								
Para-Prof								
Clerical								

SUMMARY SHEET SIX: RATES OF WASTAGE, RE-ENTRY, ETC.
PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
6.1 Supply now (SS1) (Staff employed)								
6.2 Plus absolute loss (SS2)								
6.3 Plus internal departures (SS2)								
6.4 Plus wastage (SS2)								
6.5 Minus training input (SS3)								
6.6 Minus internal arrivals (SS3)								
6.7 Minus re-entry (SS3)								
6.8 Equals supply last year								
6.9 Absolute loss rate								
6.10 Internal departure rate								
6.11 Wastage rate								
6.12 Training input rate								
6.13 Internal arrivals rate								
6.14 Re-entry rate								

SUMMARY SHEET SEVEN SUPPLY AND DEMAND - THE SHORT TERM PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
7.1 Supply now (SS1) (Staff employed)								
7.2 Minus absolute loss								
7.3 Minus internal departures								
7.4 Minus wastage								
7.5 Plus training input								
7.6 Plus internal arrivals								
7.7 Plus re-entry								
7.8 Supply next year								

7.9 Total posts now (SS1)								
7.10 Plus net growth next 12 months (SS5)								
7.11 Demand next year								

7.12 Demand next year								
7.13 Minus supply next year								
7.14 Training and recruitment need next 12 months								

SUMMARY SHEET EIGHT SUPPLY AND DEMAND - THE MEDIUM TERM PROFESSIONAL STAFF *(Note. Similar sheets will be needed for para-professional and clerical staff).*

	Pub	Nat	Univ	Coll	Sch	Spec	Arch	Total
8.1 Supply now (SS1) (Staff employed)								
8.2 Minus absolute loss								
8.3 Minus internal departures								
8.4 Minus wastage								
8.5 Plus training input								
8.6 Plus internal arrivals								
8.7 Plus re-entry								
8.8 Supply in 5 years								

8.9 Total posts now (SS1)								
8.10 Plus net growth in next 5 years (SS5)								
8.11 Demand in 5 years								

8.12 Demand in 5 years								
8.13 Minus supply in 5 years								
8.14 Training and recruitment need in medium term								

SUMMARY SHEET NINE OUTPUT FROM TRAINING INSTITUTIONS

	Professionals	Para-Professionals
9.1 YEAR 1		
9.2 YEAR 2		
9.3 YEAR 3		
9.4 YEAR 4		
9.5 YEAR 5 THIS YEAR		
9.6 YEAR 6		
9.7 YEAR 7		
9.8 YEAR 8		
9.9 YEAR 9		
9.10 YEAR 10		